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Photo by Karsch, De Milieu Expedition.

FIG. 1.—Campa Indian Fish Trap. Upper Amazon.

THE AMAZON EXPEDITION.

THE Amazon River has challenged exploration since the men who conquered Peru passed over the Andes and launched their improvised craft on the waters that led them to the Atlantic. To the Spanish and Portuguese adventurers of the sixteenth century the greatest river system in the world was not unknown, yet to-day its shores present for the most part an unbroken forest.

Though such names as Bates, Wallace, Marcoy, Coudreau and Agassiz are forever associated with the history of its exploration, especially on account of their contributions to the natural history of the Amazon, the great wilderness has not been conquered. These men and others who, for the last four centuries, have followed its course from the Andes to the Atlantic and traced many thousand miles of its affluents could only guess what lay beyond the gloomy forests on the shores. Their observations were confined to the river itself. To go one hundred yards from the margin of the stream to-day at almost any point is to enter unexplored country and whoever continued such a journey would soon be swallowed up in the wilderness and lost to the world.

The branches of the Amazon reach out into the last large unexplored area of the earth's habitable surface. In forests where the rumors of civilization have not yet reached and where the feet of

white men have not made a pathway, the aboriginal peoples still live unseen their primitive lives. So far as we are able to form any opinion of these isolated inhabitants of the earth, they are peaceful and often so timid that the appearance of strangers is a signal for their flight. They are picturesque in the extreme and live entirely on the natural products of the forest. They are without knowledge



Photo by Faugher, De Milham Expedition.

FIG. 2.—Campa Indians, Upper Amazon.

of agriculture, yet in many of the arts of life they present great skill and many of their social customs often show an elaboration of savage art and practice quite remarkable.

The less fortunate Amazonian tribes that live on the fringe of civilization where the rubber gatherers have built their towns and established their depots, have quickly borrowed foreign habits and invariably show a tendency to abandon their native arts and modes

of life. The regions that still remain remote from these persistent influences are becoming gradually less, and the present impetuous search for rubber is bringing all of the tribes nearer and nearer, if not to destruction, at least to obliteration of the ways and works that make them different from other men.

To reach the tribes that still remain in their primitive condition



Photos by Furlong, De Meillon Expedition.

FIG. 3.—Sipibo Indians. Upper Amazon.

in the forests of the Amazon is a plan which the University Museum has been considering for more than a year. The undertaking presents many difficulties, for the climate is a particularly trying one, fevers are prevalent, the distances are great, the forests are difficult to penetrate and the human inhabitants of these forests are often as shy as the wild creatures which they hunt. In order to cope successfully with these conditions a steamer was provided at the outset

for the service of the expedition, to provide the means of caring for the health and comfort of the members and serve as a movable base from which extended explorations could be carried on. The expedition sailed from Philadelphia on March 19th. On reaching the Florida coast it was found that the yacht needed repairs. As these repairs required considerable time to effect, Dr. Farabee,



Photo by Farabee, De Mehan Expedition.

FIG. 4.—Sipibo Indian. Upper Amazon.

the leader of the expedition, decided to proceed at once with Dr. Church to Para, and thereby avail himself of an opportunity of studying at closer range the field of operations that lies before him and the problems which the expedition will have to meet. At the same time, Dr. Farabee arranged that repairs on the yacht "Pennsylvania" should be completed, after which she should return to Philadelphia, there to await further orders.

Meantime, the Brazilian Government, through the State Department in Washington, have expressed their active interest in the expedition and have offered to give Dr. Farabee and his associates every assistance within their power.

From Para the expedition will proceed to Manaus: from thence it is proposed to ascend the Rio Negro, the largest tributary which comes into the Amazon from the northwest. The first labors of the expedition will therefore lie in that direction. On the upper waters and on the branches of the Rio Negro live numerous



Photo by Farabee, Dr. Milham Expedition.

FIG. 5.—Sipibo Indian House. Upper Amazon.

tribes of which little is known. These tribes will probably occupy the attention of the expedition for six months or perhaps a year.

The collections to be made will consist of weapons, utensils, ornaments and all objects relating to the arts of life, which will be found among the various tribes visited. They are destined to supply material for future research and especially to enable the Museum to reproduce for the public benefit, the actual life of some of the most picturesque peoples now inhabiting the earth, but soon to disappear. Such an exhibition, together with those from North America already in the Museum, will form a truthful and permanent record of the first Americans.



Photo by Ogilvie.

FIG. 6.—Arawak Indians in Southern British Guiana, near the borders of Brazil.



Photo by Ogilvie.

FIG. 7.—Arawak Indian house in Southern British Guiana, near the borders of Brazil.



Photo by Ogilvie.

FIG. 8.—Carib Indian woman (Wywai tribe) making Cassava grater. Southern British Guiana, near the borders of Brazil.



Photo by Ogilvie

FIG. 9.—Arawak Indian boys in festival costume. Southern British Guiana.

While the program of the expedition is subject to change, a general scheme has been laid down from the outset and the main objective points of these explorations will remain unaltered. The regions which especially invite investigation are the following: the highlands lying along the borders of Brazil on the one hand and British and Dutch Guiana on the other; the region drained by the Araguaya and the Tocantins, the upper waters of the Rio Negro and its branches



FIG. 10.—Mr. Wm. Curtis Parakee, leader of the Amazon Expedition.

the Rio Branco and the Uaupes, the Uenyalí, and lastly the regions lying between the Madeira, the Purus, the Tapajoz and the upper Xingu. The ethnological problems presented by the natives of any one of these regions are sufficient to engage the attention of a group of ethnologists for an indefinite period and the main work of the expedition will be confined to the parts where the most favorable conditions are met with. What the Museum especially hopes to do during a three year period of exploration is to pave the way for a more inti-

mate knowledge of some of these primitive peoples and to bring the country which they inhabit into closer touch with scientific inquiry. This exploration has its dangers and its risks; its cost is difficult



Photo by Ogilby

Fig. 11.—Carib Indian (Wywai tribe) in the region between Brazil and the Guianas.

to reckon and experience is all to make, but the ends to be attained are so important, the scientific interests at stake so great, that it seems to be worth an effort.

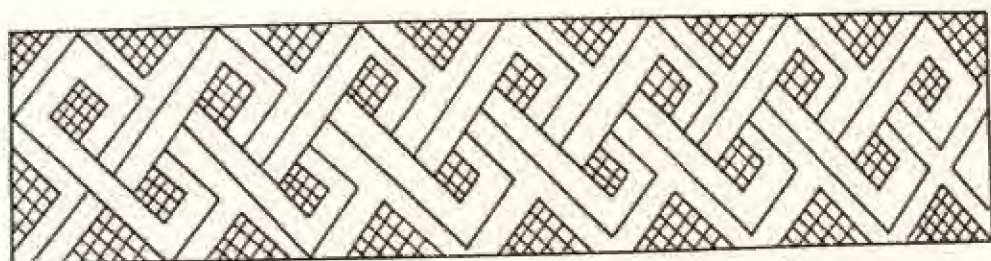
Notable ethnological work has recently been done in some of

the regions mentioned, chiefly under German and American auspices. One of the most notable of these explorations was done by the de Milhau expedition of Harvard University, of which Dr. Wm. Curtis Farabee was the leader. This expedition entered the country from the Pacific coast and after crossing the Andes reached the upper waters of the Amazon. Having been chosen as leader of the University Museum Amazon Expedition, Dr. Farabee will this time enter the field of exploration from the opposite direction. He will, for the most part, be covering new ground, but, at the same time, will be dealing with conditions with which he is already acquainted.

Dr. Farabee is a native of Pennsylvania and received the degree of Ph.D. at Harvard, 1903. Since that time he has been continuously engaged in teaching and in special scientific work at Harvard University. In January, 1913, he was appointed to the position of Curator of the American Section of the University Museum.



FIG. 12.—Dr. Franklin H. Church, Physician on the Expedition.



THE NEW CONGO COLLECTION.

DURING the summer of 1912 the Museum acquired by purchase a collection of about two thousand specimens consisting of weapons, utensils, ornaments, clothing and images from a number of African tribes living in the Congo basin. This collection was, for the most part, obtained from the natives by the well-known German traveler, Frobenius. Though for a time it was exhibited in the central hall of the Museum no opportunity was found to give it adequate space owing to the overcrowded condition of the Museum. In order, however, to afford visitors an opportunity of seeing such an important collection, it was for a time installed temporarily on tables in a way which served at least to show what a variety of artistic activities and what a rich culture the native Congo peoples possess. Visitors had an opportunity of admiring the wonderful carved wooden boxes and cups, the elaborately wrought iron-work, the curious variety of knives, swords and spears, the delicately decorated calabashes and the cloths, woven from native fibre, and embroidered in a variety of patterns. In no other class of objects perhaps are the arts of savage peoples and the refinement of feeling which savages often display in the decoration even of articles of ordinary use, better illustrated than in the collections from the Congo.

Mr. E. Torday has lived for nine years among these Congo tribes, is familiar with their habits and has studied their ethnology. He was instrumental in procuring from the natives the wonderful Bushongo collection in the British Museum. Mr. Torday is now engaged at this Museum in cataloguing the Congo collections and the following article and photographs by him are of special interest in connection with these African exhibits.—EDITOR.

The various specimens of the newly acquired African collection belong mostly to tribes inhabiting the Congo basin. It is quite impossible to describe in detail so great a number of unfamiliar objects, consequently a sketch of the natives' daily life will be attempted instead, leaving it to the reader to find out the rôle the different implements play in this. In the photographs which are shown herewith, a good idea may be derived of the appearance of the natives of the Congo, both young and old, their clothing and some of their occupations. In other photographs showing objects selected from



FIG. 13.—Bushongu woman, heavily scarified.

the collection in the Museum may be seen some of the native arts at their best.

Very young children are quite unclothed and when they begin to dress, their costume is frequently identical with that of their elders and is, in many cases, the same for both sexes. But while the dress is the same for boys and girls, it is curious to observe how, from an early age their toys and games, their occupations, their songs and dances are essentially different. For instance, boys and girls are in the habit of playing on a small flute, but whereas the boys play upon it with the mouth, the girls play it with their noses.

The characteristics of children vary according to the tribe. Thus the children of the Bashilele, who are agriculturists, are polite and shy, whereas the children of the Badjok, who are slave raiders and fighters, are quite as bold and aggressive as their elders. I can well remember once photographing a little Badjok girl a few minutes after she had tried to stab a boy who had inadvertently raised her anger.

Dresses are cheap in the Congo, for, where they are worn, they are scanty and the result of the husband's industry. The lack of



FIG. 14.—Nalenda woman with shaved head.

dress is compensated by generous scarring of the skin; the illustrations, Figs. 13 and 14, will give an idea of the sufferings these poor victims of fashion undergo so as to outdo their best friend. But whereas in our country only women are supposed to submit with resignation to tortures for fashion's sake, in the Congo man cannot claim exemption. He too has frequently his skin scarred and on the whole it can be said that the men in the Congo are vainer than women. War has been known to result among the Southern Bambala because a chief claimed to be handsomer than the lord of the nearest tribe.

The negroes have remarkably fine teeth and the efforts they

make to destroy them are quite astonishing. Some, like the Southern Bambala, file them into points, whereas the Baluba and other tribes knock the upper incisors out. The Akela, however, are the worst offenders; as soon as they grow up, all their front teeth are removed from both jaws. Girls have this operation performed just before they get married, and it is a noteworthy fact that, notwithstanding that this operation is performed in a very crude way, is extremely painful, and is followed by the swelling of the face, there are no spinsters known in the Akela country. Having all their front



FIG. 15.—Bapende men and boys dancing.

teeth removed, these people cannot bite off pieces of their food; so when they eat, they hold a small knife with the big toe and cut their food upon it.

The negro's hair lends itself in consequence of its woolly nature to all sorts of fantastic styles of hairdressing and the natives of the Congo make much of their opportunity. The Isambo lets the top grow as long as ever it can and then arranges it artistically round a wooden form so as to make it look like a cap; the two sides are carefully frizzled up in the shape of horns and the whole is dyed red with camwood powder. It takes many days to arrange such a coiffure and this is the *raison d'être* of those curious neck rests so

common all through Africa. The hair must be protected from any contact so as not to be disturbed. Before pronouncing judgment on the folly of these people we ought to keep in mind that French ladies of the time of Louis XV also wore hairdresses that required weeks to erect. White powder or red powder, the difference is really not so great as we are tempted to imagine. At any rate there are



FIG. 16.—The lunction drum.

tribes in the Congo, like the Babunda, where only men wear big crops of hair, whereas the ladies shave their heads. The resemblance between the hairdress and the shape of the roof of their huts found among the Bapende is worth noticing. When these people go to a dance they often wear tiny hats made of beads. The Congolese does not as a rule associate with a hat the idea of protection against heat or cold; as long as it is pretty, it fulfils all that is required from



FIG. 17.—Balunda funeral ceremony. (The corpse is in the hut.)



FIG. 18.—The Nyimi of Bushongo with some charms.

it; this will explain that in the Museum collection diadems of straw and bunches of feathers will be found labeled "head-gear."

The reputed laziness of the African will be found on close investigation to be nothing else than conservatism. The negro enjoys the



FIG. 19.—Bushongo drinking cups in the Museum collection.



FIG. 20.—Bushongo pigment boxes in the Museum collection.

work he is accustomed to do, and likes to do what his father did and do it in the same way. He is the same as conservative men all over the world.

The working of iron is one of his favorite occupations and we find chiefs and kings working as smiths. In the village the bellows



FIG. 21.—Bakongo lady having her head styled.



FIG. 22.—Bakongo woman and children.



FIG. 23.—Bapende hut.

are worked by boys who do it frequently for the fun of it, and the smith's shed is never empty.

His work done, the native enjoys a quiet smoke, and the different pipes used among the various tribes form a valuable part of the Museum collection. However, the greatest joy of the Congolese, as of all negroes, is music and dancing, and a look at the photograph shown in Fig. 15 cannot leave anybody in doubt as to whether they enjoy it or not. A dance may begin in the afternoon or in the evening, but you may be quite sure it will not stop before morning. Carriers, taking a moment's rest, having walked for twelve hours with



FIG. 24.—The Orkela have all their front teeth knocked out when they reach the age of marriage.

fifty pounds on their backs will jump up at the sound of the tom-tom, drum or marimba and join in the general merriment.

Some musical instruments are used only on special occasions. In Fig. 17 we see a Babunda funeral; the man in front plays a sort of rattle which consists of the stem of a palm leaf, hollowed, the edge of which has been cut out so as to resemble the teeth of a saw. Over this a broom of rigid rushes is rubbed; the sound obtained, if not pleasant, is certainly quaint. The friction drum (Fig. 16) is played when boys are initiated into the state of manhood and in former times was (and possibly even now secretly is) associated with human



FIG. 25.—The Batambala cannot resist the rhythm of music, which sets them a-dancing at once.



FIG. 26.—Bapinji marimba or xylophone.

sacrifice; it is called alternately "the village leopard" and "the lion."

The Batetela tribe are great drummers. Their drum is cut out of a single piece of wood and gives six different sounds according to the place where it is hit with the rubber-coated drum stick. It is



FIG. 27.—Trinket boxes of the Bushingo in the Museum collection.



FIG. 28.—Bushingo drinking cups in the Museum collection.

used for signaling and a conventional syllabic alphabet enables the primitive telegraph operator to transmit any message to a distance of several miles. A chief always travels with his drummer and his messages transmitted from village to village will keep him in constant contact with his home.

The artistic capacity of the African is displayed by no tribe to a greater extent than by the Bushongo. Fig. 18 shows the king of this country, who claims to be the 121st descendant in an unbroken line of rulers. He stood for the idea of national unity and greatness and when, by the arrival of the white man, the power was taken from him, the kingdom of Bushongo, which for centuries occupied in Cen-



FIG. 26.—An elder from Isimilo.

tral Africa the same position that Rome of the Augustan period held in Europe, fell to pieces and its glory departed from it forever. Such is the price we exact from people who have never harmed us, for giving them a civilization which is sure to disagree with them and to lead to their extinction.

Since the principal part of the collection now exhibited in the Museum comes from that wonderful people, the Bushongo, I desire

to say a word about the art of this tribe in particular. The Bushongo, or more correctly the Bashi-Bushongo (meaning "people of the country of the throwing knife") inhabit the district of the Belgian Congo bounded on the north and east by the Sankurn river, on the west by the Kasai. The name by which they are generally known to Europeans is Bakuba. This, however, is a foreign, Luba, term and is never applied by the Bushongo themselves; it means "people of the thunderbolt." The Bushongo nation is composed of seventeen



FIG. 36.—Mopende in dancing costume.

sub-tribes, most of which are represented by specimens in the collection now exhibited in the Museum. Besides these there are three independent Bushongo nations; the Isambo, who revolted and made themselves independent in the seventeenth century, and the Bakonge and Bashilele, representing an earlier wave of immigration; the two latter may be considered as the primitive Bushongo.

The Bushongo are among the most skillful carvers of Africa. Speaking generally, the forms adopted by them are remarkable for



FIG. 31.—Bapenda warriors.



FIG. 32.—Midumda smith at work.



FIG. 33.—Molunda going to market.



FIG. 34.—Molunda man with long hair.

the sense of proportion which they exhibit; hardly a single example can be found, especially among the older specimens, which is not graceful and harmonious in outline. A striking illustration of this statement may be seen in the drinking cups shown in Fig. 19 and in the beautiful pigment boxes Fig. 20. The same sense of proportion is found in their metal work. Next in interest comes ornamentation and this opens a subject which could be treated at almost any length owing to the variety of patterns and the universality of their application. The very skin of the female population does not escape what



FIG. 35.—Mambala youth with filed teeth.

they consider embellishment. The *horror vacui* is a marked characteristic of the Bushongo and consequently all their utensils are covered with graceful designs. But though in some cases every square inch of an object is covered with ornamentation, it very rarely appears overloaded; the keen sense of proportion possessed by these Africans extends also to the covering of a definite space with appropriate ornamentation. The outlines are bold and certain and there is rarely any trace of weakness in them.

The ornamental designs of the Bushongo are borrowed from the natural world or from designs derived from textile art; the prevalence

of textile patterns in their wood carving is remarkable and renders any separate classification of carved and woven designs impossible. Some decorations are taken directly from nature; chief among these is a representation of the human face. The most frequent however are the varieties of the design called Bambi (antelope). In one form it consists of an entire head and is constantly found as a detail on pipe-stems. Other forms of this pattern consist in the horn



FIG. 36.—Motetela drummer sending a "wireless" message. The signal drum is used for sending messages to a distance by means of a code.

or the horns of the antelope, depicted singly, in pairs, or in groups of any number. Two reptiles are constantly appearing in Bushongo art, the tortoise and the iguana. The former is called Mayulu, and is sometimes found as an ornamental knob, or, more frequently, as a hexagonal design derived from the scales of the carapace of the tortoise. The iguana, Lebene, is usually found carved on drinking horns; sometimes the complete animal is shown, but mostly the spurred forefeet, or even one foot alone, in a highly conventionalized

form. The carving of horn with the soft iron tools at the disposal of the Bushongo is a remarkable achievement; these drinking horns are reserved for successful warriors; no one who has not slain an enemy in battle or a leopard is allowed to drink from them.

So far the question of Bushongo art has been fairly straightforward, but the task of dealing with the patterns derived from weaving and kindred crafts is far otherwise. Not that it is not easy to refer these designs at once to their origin, as a glance at the illustrations will show, but it is difficult to understand the native system of nomen-



FIG. 37.—Southern Mombula boy playing flute

clature and any attempt at explanation must be somewhat complicated. The reason for this difficulty lies in the fact that the Bushongo do not look at a pattern from the same point of view as we do; they do not regard the design as a whole, but reduce, as it were, each pattern to its lowest elements, and pick out one of these as the essential feature; the name of this they then give to the whole pattern. Now patterns, like many of these, obtained by breaking various designs of weft at regular intervals, and built up of small details, which occur in various combinations in a number of different patterns, are quite dissimilar in general effect, so that two natives may give different

names to the same design, owing to the fact that a different element appealed to the eye of each as the leading characteristic of the pattern. This occurs if the two natives are of different sex: the man sees the design of the wood carver's, the woman of the embroiderer's point of view.

I will not enter into the intricate paths by which alone one can come to understand the derivation of the different names of designs.



FIG. 38.—The Chikala judge in matrimonial robes of Bushongo with an ancestral statue.

I ventured to go into some details of Bushongo art because the quality of the Bushongo decorations is so remarkable and because the native point of view with regard to the classification of patterns is an extremely interesting physiological question. Enough has been said to show that the acquisition of these objects is of considerable value, not only from the scientific, but also from the artistic point of view.

E. TORDAY.



FIG. 39.—Bafickwe hunter.



FIG. 40.—Bakongo children.



FIG. 41.—Bapende mother and child.



FIG. 42.—Balambila man in costume.



FIG. 43.—The granaries of a Bakongia village.



FIG. 44.—The smithy in full activity.
(The meditative looking person is the smith, the others assistants.)

NOTES.

By resolution of the Board of Trustees, passed on March 10, 1913, on the recommendation of the Board of Managers of the Museum, the name of the Museum has been changed from the Department of Archaeology and Free Museum of Science and Art to the UNIVERSITY MUSEUM, which now becomes its official title.

Through an oversight in the September number of the JOURNAL the name of the author was omitted from the article on "The Fiesta of the Pinole at Azqueltan." The article was written by Dr. J. Alden Mason, the Museum Fellow in the International School of American Archaeology and Ethnology in Mexico.

Dr. Wm. Curtis Farabee, F.R.G.S., formerly instructor in anthropology at Harvard University, has been appointed Curator of the American Section of the Museum and leader of the Amazon Expedition. Dr. Farabee formerly spent three years in the Amazon region as leader of the de Milhau Expedition of Harvard University.

Mr. E. Torday, of London, the African explorer, was engaged for three months to catalogue the Congo collections purchased last summer. Mr. Torday arrived at the Museum on the first of January and remained until the end of March. During this time he gave two public lectures in the Museum course.

A collection of very rare old specimens of North American ethnology has been presented by Mrs. Mary Powers Harris, to be known as the Thomas H. Powers Collection.

A collection of ancient Chiriqui pottery consisting of two thousand pieces has recently been purchased.

A small collection from the Plains Indians has been presented by Mr. George W. Norris.

The California ethnological collections have been increased by the purchase of thirty-two pieces of unusual interest from the Yurok, Karok and Hupa Indians.

Mr. Carl P. Birkinbine has presented a jade image from Mexico.

Dr. Ward Brinton has presented two architectural sculptures from the ruins of Uxmal, Yucatan.

A collection of about two thousand pieces of Meixcan antiquities obtained by the International School of American Archaeology and Ethnology in Mexico, has been acquired through Prof. Franz Boas, of Columbia University, who was Director of the School last year.

The following ethnological collections have been purchased: Matty Island, British New Guinea, New Caledonia, Solomon Islands, New Ireland, German New Guinea, comprising in all six hundred and seventy-four specimens.

A collection of two hundred and forty-nine specimens from the Herreros of southwestern Africa has been acquired by purchase.

A collection of one hundred and eighteen pieces consisting of bronzes and carved ivory tusks from Great Benin has been acquired by purchase. The bronzes consist of portrait heads, staves, plaques, masks, bells and personal ornaments. The collection forms the subject of a special article in the December number of the JOURNAL.

Four Chinese porcelains of the Ming dynasty have been acquired by purchase.

Mrs. William Pepper has presented a piece of old Indian embroidery.

Mr. E. Torday has presented a piece of Bushongo embroidery.

Mr. Charles A. Rutter has presented an iron axe, a pair of bellows, three harps and a mancala board with its counters, all from the Congo.

A letter has been received from Mr. Otto Hanson, who is collecting for the Museum among the Bogobo tribe of southern Mindanao in the Philippines, reporting good progress in the work in which he is engaged.

A collection of eighteen Oriental rugs and other Oriental textiles has been purchased and added to the collections in the ethnological section.

The Museum has made a contribution to the British School of Archaeology in Egypt for its work during the coming season under the direction of Prof. Flinders-Petrie.

A small collection of inscribed mummy cloths and a terra cotta statuette from Egypt have been added to the Egyptian collections.

The Mediterranean Section has acquired by purchase eighteen ancient Greek vases, a collection of forty-seven pieces of Roman glass and four ancient Greek gold ornaments.

An exhibit has been arranged in the Mediterranean Section, of pottery and bronze objects excavated by the several Museum expeditions to Crete. This exhibit illustrates the several successive periods of Minoan civilization according to the classification of Sir Arthur Evans and his colleagues. The sites represented in this collection are Gournia, Vasiliki, Psira, Sphoungaras and Vrokastro. Besides the pottery and bronzes there are a number of casts of seals and other objects, the originals of which are in the Candia Museum.

Dr. Edith H. Hall has in preparation a volume dealing with the excavations of the Museum at Vrokastro, Crete, and embodying the results of investigations made by the last two expeditions.

Volume III of the publications of the Babylonian Section is now in press and will be ready for distribution during the summer. This volume is by Dr. James A. Montgomery and deals with the Aramaic texts inscribed on incantation bowls found at Nippur.

Dr. George A. Barton, Dr. B. B. Charles and Dr. Edward Chiera are engaged in copying tablets in the Museum collection and in preparing volumes of texts for publication in the Babylonian Series.

The President of Museum, Mr. Eckley B. Coxe, Jr., has presented to the Museum Library a perfect copy of the first edition of Napoleon's "*Description de l'Egypte*." This monumental work consists of twelve folio volumes of plates, one folio volume of description of the plates and nine folio volumes of text. The next number of the JOURNAL will contain an historical note relative to this work.

During the present school year the teachers of Philadelphia took an increased interest in the educational work of the Museum. Under this plan of co-operation a great many classes from the elementary and high schools of the city visited the Museum, together with their teachers, to listen to informal talks by the curators and to examine the collections.

The lecture course for the season just closed maintained the standard and kept up the same interest as that brought out in last year's lectures. The auditorium was filled on each occasion and on some occasions a number of people who came to hear the lecture were unable to find places. The new auditorium, when completed, will afford relief to this situation by providing more ample accommodation for the audiences that attend the Saturday afternoon lectures.

The contract for the new extension of the building was awarded to Jacob Myers Sons' Company and work began immediately after the signing of the contract. Already considerable progress has been made upon the foundations.

Dr. P. R. Schuller, formerly of the Museum Goeldi of Para, Brazil, was granted permission to copy and otherwise study the Brinton collection of MSS. and rare books relating to the Indian languages, ethnology and antiquities of Central and South America. Dr. Schuller spent five months in the Museum Library pursuing his studies in these connections.

The latest publication of the Museum is "The Book of Chilam Balam of Chumayel," published in facsimile, with introduction by G. B. Gordon. This work forms Volume V of the Anthropological Publications of the Museum.

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No. 2

IMPORTANT HISTORICAL DOCUMENTS FOUND IN THE MUSEUM'S COLLECTION OF ANCIENT BABYLONIAN CLAY TABLETS

IN the spring of 1910 one hundred and fifteen boxes of inscribed tablets and fragments of tablets, excavated by the University of Pennsylvania Babylonian Expedition at Nippur during the years 1888-1900, were unpacked in the workrooms of the Museum. Since that time trained assistants have been engaged in the laborious task of cleaning these tablets, assembling the fragments which belonged originally to the same tablet, putting these together, and securing the proper preservation of the collection. Between 1888 and 1910, 6,970 tablets and fragments had been examined and catalogued. The estimated number which came from the boxes unpacked in 1910 is 10,000. The collections of Babylonian tablets in the Museum therefore number about 17,000. A large proportion are in many pieces, and different fragments of the same tablet are often found in the contents of different boxes. This, and the fact that the clay from which the tablets were excavated, adheres to the tablets, together with other matter with which they were brought in contact in the packing, makes the cleaning and mending very slow work. The assistants who are engaged in this work, not being versed in the cuneiform writing, rely on the correspondence of fractures, general similarity of writing, or of color and texture in the clay in bringing fragments together which belong to one tablet. In this way many pieces are sometimes brought together and a tablet more or less complete built up from pieces of varying sizes.

Since these fragments come as often as not from different parts of the box and often from different boxes, there are only two methods of assembling the fragments. One is the method already described, and the other is by means of context in the inscription written on the surface of each tablet. This latter method can be used only

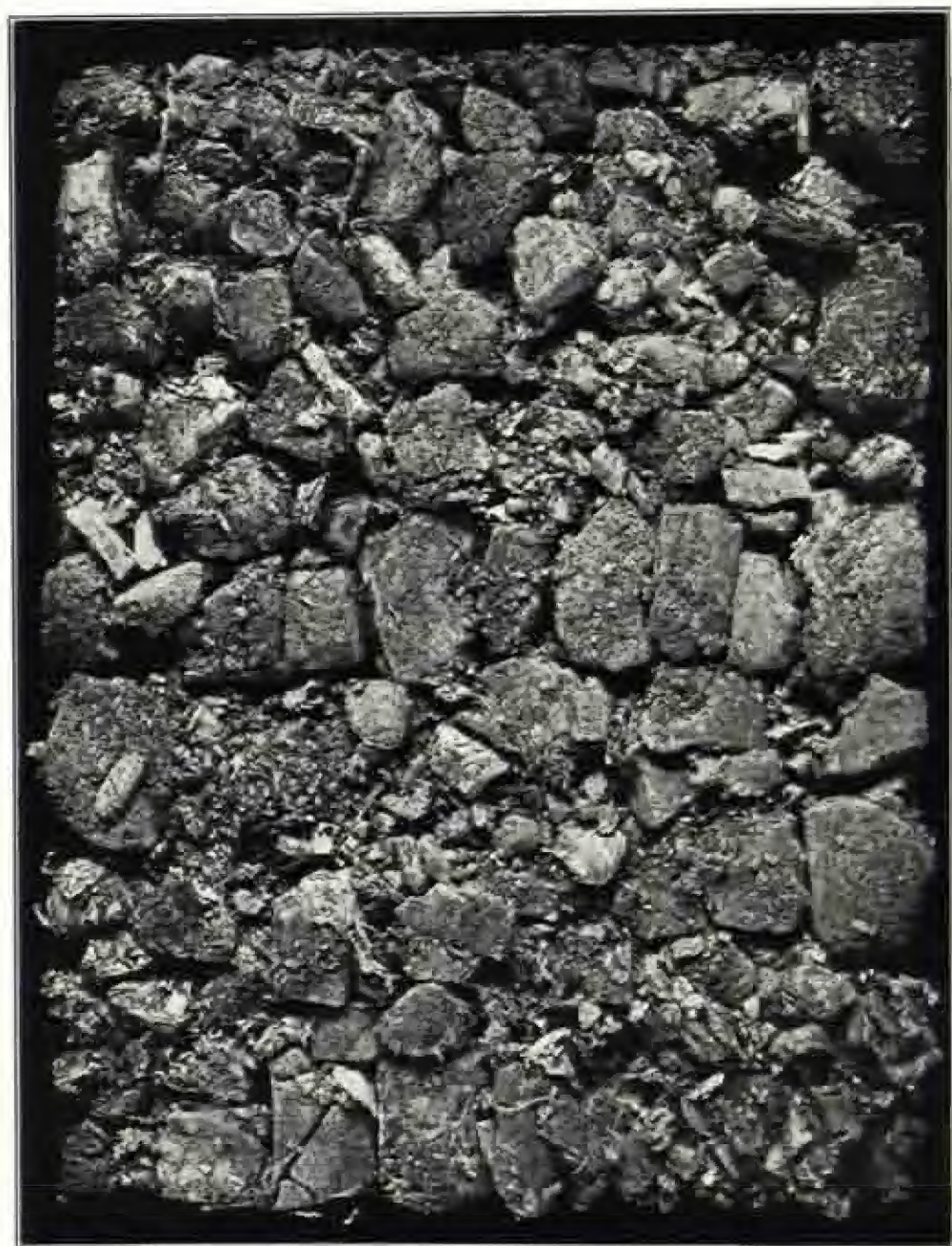


FIG. 45.—The contents of a box of tablets excavated at Nippur, as they appeared when unpacked in 1910, before clearing and mending.—This is typical of the 115 boxes opened.



FIG. 46.—A crumbling tablet partly cleaned and ready to be repaired.



FIG. 47.—A group of tablets after having been cleaned and mended.

by those who read the cuneiform text. After the trained assistants have exhausted the resources of the first method it sometimes happens that a Babylonian scholar discovers in reading the inscriptions that two apparently distinct pieces actually belong to the same tablet.

After being cleaned by means of soft brushes and other methods devised to avoid injury to the tablets, a lot of fragments, large and small, are spread out on long tables, and the work of discovering the pieces that belong together proceeds until no more joints can be made. Each tablet is then packed separately in cotton and placed in receptacles which are kept in rooms with dry atmosphere and even temperature, for these tablets are often of unbaked clay and being impregnated with certain salts are apt to disintegrate under unfavorable conditions.

The important considerations which have been kept in mind in connection with this work from the first are to secure the preservation of the tablets with special reference to their scientific and historical value, and to make them accessible to Babylonian scholars in order that such facts of importance for human history as may be contained in these ancient writings may find interpretation and become matters of general knowledge.

Babylonian scholars everywhere have been invited to avail themselves of the opportunity which these tablets afford for the investigations in which they are interested, and the collections have been placed at their disposal with proper facilities for their study. Among the scholars who have taken advantage of these privileges is Dr. Arno Poebel, of Johns Hopkins University, who spent five months during the summer of 1912 in the Museum copying tablets which he selected to form a volume of historical and grammatical texts. Dr. Poebel copied and translated about two hundred pieces of text, some of which are of great interest.

In the article which follows, Dr. Poebel gives for the benefit of the readers of the JOURNAL, some of the more interesting results of his work.

G. B. G.

THE BABYLONIAN STORY OF THE CREATION AND THE EARLIEST HISTORY OF THE WORLD

During the summer of 1912 I examined the collections of cuneiform inscriptions in the University Museum. I was especially interested in historical and grammatical texts and of both I found quite remarkable specimens.

One of the tablets of historical contents takes us, at least in the belief of the Babylonians, back to the very beginnings of history, namely to the time of the deluge, and even farther back to the time of the creation of mankind. Only the lower part of this tablet has been found; what has been recovered is, however, a priceless possession of the Museum.

The preserved portion of the first column begins with instructions concerning the building of cities, which, it seems, were given by the gods to the first men, whose creation must have been related



FIG. 48.—Obverse of a tablet containing the story of the creation and the deluge.

in the now missing preceding lines. Still we are fortunate enough to read at the end of the first column at least the following reference to their creation. "After Enlil, Enki and Ninharsagga had created the blackheaded" (thus the Babylonians designated humankind) "they called into being in a fine fashion the animals, the four-legged, of the field." Up to the present time there has been, among Assyriologists as well as among Biblical scholars, considerable speculation as to whom the Babylonians, in the older times, credited with having created the first of the human race. Here we are told that it was the two gods Enlil and Enki and the goddess Ninharsagga. From

Greek writers we know of a very queer late Babylonian account of the creation of man which was transmitted to them by the Babylonian priest Berosus, a younger contemporary of Alexander the Great. According to him the god Bel, *i. e.*, Marduk of Babylon, cut off his head and the other gods mixed the blood that flowed from his head with the earth and fashioned man who thus became a rational being. This story has not come to us directly from Berosus; it first passed into a book by the Greek scholar Alexander Polyhistor and from there has been quoted by Eusebius, the writer of the history of the Christian church, and it may therefore have reached us somewhat disfigured. But assuming its general correctness and considering it in the light of our new text as well as what we know from other cuneiform sources, we may perhaps reconstruct the older Babylonian story of the creation of man in this way. When Enlil, the creator of heaven and earth, wished to people the earth with living beings, the god Enki, the god of wisdom and knowledge, devised the image of man after the image of the gods, and the goddess Ninharsagga moulded it in clay, while the blood of Enlil gave it life and intellect. From the Old Testament we know that the blood was considered to be the seat of life, but whether or not the idea that Enlil cut off his head to obtain this life-giving blood will be corroborated from cuneiform sources we cannot tell at the present time.

Turning now to the second column of our tablet we read of some of the ante-diluvian cities of Babylonia, which Enlil bestows upon certain gods. Here again our tablet settles a disputed question; it mentions the city of Larak, and it is therefore this city that must be identified with the city of Laranche, which according to Berosus was the seat of several of the prediluvian kings of Babylonia.

The third, fourth, fifth and sixth columns then contain the story of the deluge. "At that time," we read in column 3, "Ziugiddu was king, a *pashish*-priest of Enki; daily and constantly he was in the service of his god." In order to requite him for his piety Enki, in column 4, the first of the reverse, informs him that at the request of Enlil it has been resolved "in the council of the gods to destroy the seed of mankind," whereupon Ziugiddu—this part of the story, however, is broken away—builds a big boat and loads it with all kinds of animals. For seven days and seven nights a rainstorm, as we read in column 5, rages through the land and the flood of water carries the boat away; but then the sun appears again

and when its light shines into the boat Ziugiddu sacrifices an ox and a sheep. Lastly, in column 6, we find Ziugiddu worshipping before Enlil, whose anger against men now has abated, for he says: "Life like that of a god I give to him," and "an eternal soul like that of a god I create for him," which means that Ziugiddu, the hero of the deluge story, shall become a god.

A Babylonian story of the deluge has been known to us for a long time from a poem that is imbedded in the famous Gilgamesh



FIG. 49.—Reverse of a tablet containing the story of the creation and the deluge.

epic. There exist also several fragments of other versions of the story, and the Museum possesses a small fragment of thirteen partially preserved lines, which was published by Prof. Hilprecht some years ago. Our new text, however, is an entirely different account, as will be seen from the fact that the hero bears a name different from that found in the other deluge stories. But what makes the new account especially important is that it is not, like the other versions, written in the Semitic Babylonian language, but in Sumerian, that is, the old tongue of the non-Semitic race which, in the earliest days of history,

held sway over Babylonia. As will be seen from some of the quotations the text is a kind of poetical composition, and as such was originally not intended to be merely an historical record, but served some practical, ritualistic or other purpose. For various reasons it seems to me that our tablet was written about the time of king Hammurabi (2117-2075), thus being the oldest Babylonian record we have at the present time, of the creation as well as the deluge. The text itself, however, may go back to even a much earlier time.

Judging by the color of the clay, the shape of the tablet and the script, our text belongs with another tablet that contains a list of kings. It even seems to me that there were three tablets of about equal size measuring about $5\frac{1}{2}$ by 7 inches, on which an historically interested scribe wrote the world's history, or at least its outlines. The first of these tablets, I believe, contained the Babylonian theogony and then related the famous fight between the younger generation of the gods and the deity of the primeval chaos, which ultimately resulted in the creation of heaven and earth out of the two parts of Chaos. Here the tablet which I have just described comes in and gives the history of the world as far as the deluge. Then a third tablet gave a complete list of the kings of Babylonia from the time of the deluge to the king under whom the tablets were written. A portion of this third tablet or, to be more accurate, the reverse of this portion, which contains about an eighth of the whole text, was published six years ago by Prof. Hilprecht. It contained two of the last dynasties of this list of kings. I succeeded in copying also the much effaced obverse which contains the names of kings of the period immediately after the deluge, and, in addition to this, I also found larger and smaller fragments of three other and older lists of kings. I need hardly emphasize the great historical and chronological value of these new lists since they give us not only the names of the kings, but the length of their respective reigns, and in some few instances even add some short historical references relating to these kings. The first part of these lists leads us, it is true, into quite legendary times. We find there kings whose names are familiar to us from myths and legends and heroic epics, as, e. g., Gilgamesh, the hero of the famous Gilgamesh epic; Dumuzi, the unfortunate lover of the goddess Ishtar; Etana, who, under the wings of an eagle, made a daring ascent to heaven, etc. Moreover, remarkably long reigns are assigned to the first kings of the lists. Etana, e. g., is said to have ruled 625 years; another king, called the "Scorpion," 840 years,

and Lugalbanda of Erech 1200 years. But very soon the lists become entirely historical: the kings rule only 36, 20 or 7 years, etc.

The long reigns assigned to the earlier kings involve, of course, that a very long duration must be assumed for the whole period from the deluge to the time when the tablets were written; and indeed one of the tablets that was written under the 134th king, the eleventh king of Isin, counts 32,175 years, while another list reckons from the deluge to the 139th king, the last king of Isin, 32,234 years.

This is, by the way, a new corroboration, at least to some extent, of the Greek tradition which, as we saw, goes back to the priest Berosus. For we are told by Greek writers that from the deluge to the first invasion of Babylonia by the Medes—this invasion is, of course, not identical with that of the later Medes and Persians—86 kings ruled over Babylonia for 33,091 years. There must, of course, be some slight mistake in these numbers. On the whole, the great similarity of the two traditions is striking.

In order fully to appreciate the bearing of the new chronological data, it may be well to say a little more on the chronological system of the Babylonians as it has been transmitted to us by the Greeks, and as we can now partially confirm it from cuneiform sources.

At the beginning of all time there were three immense periods. In the first there existed only Chaos and her husband, the Ocean; then, after a long time, the primeval gods Lakhmu and Lakhmu were born, and after similar long intervals Anshar, the upper world, and Kishar, the lower world, came into existence. This primeval period came to an end when the younger generation of gods vanquished Chaos and created Heaven and Earth. Then follows, from the creation to the deluge, the period of the ten primeval kings which lasted 432,000 years. After that the present still lasting period begins, for which, till about 2400 B. C., the Babylonians counted 32,234 years. From the creation to the time of Berosus (ca. 300 B.C.) we would therefore have to count about 466,500 years, but in the introduction to his book on Babylonia he states that the written records of the Babylonians reached back to about 2,150,000* years before this time, *i. e.*, long before the creation of the earth, to the time when Chaos still reigned the universe.

Some of the earlier kings we meet again in a number of fragments of chronicles and poetical compositions, which I have copied. I mention here only the epics referring to king Lugalbanda and king

* Thus according to the Armenian version; the Greek text gives the number as 150,480.

Dumuzi. If we combine all the facts that we are able to gather from the new tablets as well as from the older material, the story of the two kings is about the following.

Lugalbanda began his career as a shepherd; at his time the bird-god Zu stole from Enlil, the king of the gods, the tablets of fate, which gave to their owner supreme power over the whole world, over men and gods alike. Enlil used to wear them on his breast, but one day when he was sitting on his throne, the bird-god Zu snatched the tablets away and flew to a distant mountain rock. None of the gods dared to do anything to recover the tablets, for all power now rested with Zu, but the shepherd Lugalbanda, thus we must conclude, succeeded in recovering them by a trick which he played on Zu, and Enlil requited this service by making him king of Erech and, after a reign of 1200 years, even made him a god. As such he was worshipped even in the latest times of Babylonian history.

King Dumuzi was originally a fisherman, but the goddess Ishtar fell in love with him and made him king of Erech. Concluding from certain allusions in the Gilgamesh epic it seems that Ishtar after some time killed her lover, though afterwards she seems to have repented of her deed, for in order to bring him back from the dead,* she herself descends into Hades. A tablet that I found among the collections of the Museum depicts the famous scene when Ishtar enters the realm of the dead. She passes through the first gate and the crown is taken from her head. "Why do you take this away from me?" she asks, and the answer is given, "Go on, O Ishtar, such are the laws of the nether world!" She passes through the second gate and the rings of her fingers are taken from her. Again she asks, "Why do you take these away from me?" and again the answer, "Go on, O Ishtar, such are the laws of the nether world!" And so she walks through all the other gates until finally she passes naked through the seventh and last gate. It would lead us too far from our subject if I would here describe how Ishtar herself now was kept a prisoner in Hades, but was rescued by the gods; and it seems her lover Tammuz was rescued too, for later, at the time of Adapa, we find him as a god in the heavenly palace of Anum, the father of the goddess Ishtar.

These legends, it is true, have mostly been known to us already from late Babylonian and Assyrian texts, and besides, the texts

* This connection is not certain; it is only an attempt to bring in contact with each other the various isolated parts of the epics.

which I found in the Museum, are very fragmentary. And yet an inestimable value attaches to them, for first of all they are written like almost all of the literary texts that were found at Nippur, in Sumerian, and then they date from a time almost two thousand years earlier than many of the known legends which mostly came from the library of king Ashurbanapal (about 630 B. C.).

Let us now turn to the really historical times. There is, *e. g.*, a very large clay tablet that contains the copies of a whole series of inscriptions of king Lugalzaggisi of Erech and of the three first kings of Agade in northern Babylonia, Sharrukin, Rimush and Manishtusu, whose time is placed by a late Babylonian statement about 3750 B. C. A short statement on the edge of the tablet tells us that these are all the inscriptions of the just mentioned kings that were extant in Ekur, the temple of Enlil at Nippur, which the University of Pennsylvania has partially excavated. These texts contain a wealth of important historical information. We learn from them, *e. g.*, that Sharrukin on an expedition to southern Babylonia made Lugalzaggisi a prisoner and led him triumphantly in fetters through the gate of the temple of Enlil at Nippur. He then proceeds farther south until he reaches the Persian Gulf, where he washes his weapons in the sea. Then he subdues the various kingdoms in the West and along the shore of the Mediterranean as far as the "cedar forest" and the "silver mountains," *i. e.*, the Lebanon and the Taurus in Asia Minor. Likewise he leads his victorious armies to the East as also do his two successors, Manishtusu and Rimush, the former of whom crosses the Persian Gulf and vanquishes a coalition of thirty-two kings who had assembled to do battle with him, and then subdues the lands as far as the silver mines or, as the inscription says, the "silver holes."

Similar copies of royal inscriptions of quite a number of other kings were found in the Museum collections, *e. g.*, of Naram-Sin of Agade, 3750 B. C., of Ur-Engur of Ur, about 2700 B. C., Ishbi-Urra, Idin-Dagan, Ishme-Dagan, Ur-Ninib, Damik-Ilishu of Isin, copies of letters to and from king Idin-Dagan of Isin, between 2600 and 2300, the copy of a building inscription of Samsuilana, about 2050, etc. Among the collections that were bought from antiquity dealers I found a very important historical inscription of king Lugal-annamundu of Adab, a Babylonian kingdom of which we did not know much up to the present time, presumably before 2700 B. C. It comprised not only Babylonia but the surrounding countries also.

In the introduction the king speaks of his conquest of the Elamitic city of Markhalim, and then describes a temple which he built and its seven gates. But I must not forget to make mention of a short Sumerian history of a temple of Ninlil, which incidentally also furnishes information of the great temple of Enlil at Nippur. We



FIG. 59.—A tablet containing the famous code of laws of Hammurabi. As many pieces as could be found have been joined together after each fragment had been carefully cleaned.

learn, *e. g.*, that when this temple had fallen to ruin for the second time, king Gilgamesh rebuilt a certain part of it, while his son (.....)-lugal rebuilt the temple of Ninlil.

Another treasure of the Museum is a copy of the famous code of laws of king Hammurabi (about 2100 B. C.). To be precise I ought

to say that up to this time only one of probably three very large and bulky clay tablets that contained the full text of the code has been found; it is very much broken, as will be seen from the accompanying photograph. But nevertheless it remains a great treasure, since the better preserved obverse supplements a part of the great lacuna on the stele of the code in the Louvre, supplying some laws concerning the merchant and his undermen.

The second class of tablets on which I worked during the last summer, the grammatical texts, are very numerous; they mostly came from the temple school, and the greater part of them contain grammatical exercises of pupils. They all deal with the Sumerian language, which the young scribes of those days had to acquire as at the present time boys of the higher schools are instructed in Latin and Greek. These linguistic tablets, which partly date from 2500 and partly from 1300 B. C., can, of course, claim a greater interest only from Sumerian scholars; for them, however, their value will be immense; for they give not only a good many new readings of cuneiform signs, but a few of them contain paradigms of the most difficult and so far only imperfectly known parts of the Sumerian language, namely the personal pronouns and the verbal forms. These new tablets will form the first sure basis for a Sumerian Grammar.

ARNO POEBEL.

THE TABLET OF ENKHEGAL

ENKHEGAL was one of the earliest kings of Lagash, the modern Telloh. The only inscription from his time which is known is in the University Museum where it bears the number 10,000. It was purchased by Professor Hilprecht in the summer of 1896, who wrote a brief description of the tablet for the *Zeitschrift für Assyriologie* of that year, and all that scholars have known of the king has been based on this description, as the tablet has hitherto never been interpreted.* Indeed interpretation has been hitherto almost impossible, as Enkhegal lived before Ur-Nina, the oldest king of Lagash whose inscriptions have been read, and the tablet is naturally in a more archaic script than that of the last mentioned king. According to our revised Babylonian chronology, the tablet

* See *Zeitschrift für Assyriologie*, XI, 330, and XV, 403; also L. W. King, *History of Sumer and Akkad*, 106.

comes from about 3100 B. C., about 500 years earlier than the inscriptions of Naram-Sin and Sargon.

Believing that I have solved most of the problems connected with the writing of this tablet, I am happy to present to the readers of the JOURNAL a tentative translation of it. The tablet records the ownership of several tracts of land, for which payment was made partly in bronze and partly in grain. It reads as follows.



FIG. 51.—The tablet of Enkhegal.

Transliteration.

- I. 1. X[XX]III BUR GAN
2. [X]XII URUDU MA-NA
3. XX ŠE SIG
4. X AŠ SIG
5. GAN [EN-ĤE-GAL]-KU LU-
GAL PUR-ŠIR-LA

Translation.

- I. 1. 33 (?) *Burs* of land;
2. 22 (?) manas of bronze;
3. 20 (*gurs*) of winnowed grain;
4. 10 (*gurs*) of cleansed ash-plant;
5. a field for Enkhegal, king of Lagash.

6. VII BUR GAN
7. XII URUDU MA-NA
II. 1. XX. UR-ŠAM
2. II ŠE SIG
3. DU-SIG-LUGAL
4. GAN-ŠU-RU
5. XI BUR GAN-KI
6. V URUDU MA-NA
7. XX LXXII QA ŠE SIG
8. GAN ŠAM-SUKUM-ME
9. EN-HE-GAL-KU LUGAL
PUR-ŠIR-LA
10. DU-SIG-LUGAL
III. 1. VIII BUR GAN
2. II BAL
3. XI GAB-ŠE SIG
4. X LXXII QA ŠE SIG
5. EN-HE-GAL LUGAL
6. KAS E-KI
7. LAL-KI
8. LUGAL NIM UR-SAG LAL
9. MAŠ NUN BAR NIG-GU
10. XXX LAL II BUR GAN
11. XII URUDU MA-NA
IV. 1. XL ŠE SIG
2. XX LAL I BUR GAN
3. VII URUDU NA-MA
4. X LXXII QA ŠE SIG
5. IV BUR LUGAL-KI
6. III BUR LUGAL-KI KUR
GIŠ-RU
7. BAR SIL GIŠ-GIŠIMMAR
8. GU-GAN ZUR-KI
9. EN-HE-GAL
10. LUGAL BUR-ŠIR-LA
11. XIV BUR GAN
12. VICH
V. 1. II ŠE SIG
2. BAD-GIS-GI
3. ŠIŠ IB-KURUN
4. GIRIN GAL

6. 7 *Burs* of land;
7. 12 manas of bronze;
II. 1. 20 (*gurs*) of ur-plant;
2. 2 (*gurs*) of winnowed grain
3. of the royal standard of purity—
4. a rain-prepared field;
5. 11 *burs* of unimproved land,
6. 3 manas of bronze;
7. 20 *gurs* 72 *qas* of winnowed grain;
8. a field of shukummē-plants
9. for Enkhegal, king of Lagash-
10. of the royal standard of purity.
III. 1. 8 *Burs* of land;
2. 2 *burs* of ploughed land;
3. 11 (*gurs*) of winnowed gab-grain;
4. 10 (*gurs*) 72 *qas* of winnowed
grain;
5. (for) Enkhegal, the king,
6. improver (?) of the land's irriga-
tion,
7. uniter (?) of the land,
8. the exalted king, the warrior who
subdues,
9. princely leader, great lord.
10. 28 *Burs* of land;
11. 12 manas of bronze;
IV. 1. 40 (*gurs*) of winnowed grain;
2. 19 *burs* of land;
3. 7 manas of bronze;
4. 10 (*gurs*) 72 *qas* of winnowed
grain;
5. 4 *burs* of royal land;
6. 3 *burs* of royal land, captured
from Umma (?),
7. bordering on the old palm trees
8. of Gū-edin, the cherished land
9. of Enkhegal,
10. king of Lagash,
11. 14 *Burs* of land;
12. 602 manas of bronze;
V. 1. 2 (*gurs*) of winnowed grain;
2. of Badgishgi,
3. brother of Ibkurin.
4. Larger sections;

*The correct translation of this sign is unknown. See Meissner's *Seltene assyrische Ideogramme*, No. 3781-2.

- | | |
|---------------------------|--|
| 5. XXXVIC BUR GAN | 5. 3600 <i>burs</i> of land; |
| 6. IIC URUDU MA-NA | 6. 200 manas of bronze; |
| 7. II ŠE SIG | 7. 2 (<i>gurs</i>) of winnowed grain; |
| 8. GAN-A-UŠ | 8. (for) Ganaush, |
| 9. MAŠ NUN BAR NIG-GU | 9. princely leader, great lord, |
| 10. ŠIS ŠID-MAL(?)RU APIN | 10. brother of Shidmal(?)ru, the shepherd, |
| 11. LUGAL NIM GIN SAG LAL | 11. the exalted king, chief counsellor, the subduer, |
| 12. KAT. [LUGAL | 12. |
-
- | | |
|--------------------------|---|
| VI. 1. VIII BUR GAN | VI. 1. 8 <i>Burs</i> of land; |
| 2. III ŠE SIG | 2. 3 (<i>gurs</i>) of winnowed grain— |
| 3. GAN PAR-A-GAB-AB (?) | 3. a field of Paragabab (?), |
| 4. CLX SIG ŠE APIN | 4. (160 (<i>gurs</i>) of winnowed grain), the shepherd, |
| 5. MAŠ NUN BAR NIG-GU | 5. princely leader, great lord— |
| 6. DU-SIG-LUGAL | 6. of the royal standard of purity. |
| 7. XXI BUR GAN NIG UD-DU | 7. 21 <i>Burs</i> of land, belonging to Uddu, |
| 8. GUD GAN | 8. an ox-irrigated field. |
| 9. [C]XL URUDU [MA-NA] | 9. 140 manas of bronze. |
| 10. | 10. |
-
- | | |
|---------------------|------------------------------------|
| VII. 1. X BUR GAN | VII. 1. 10 <i>Burs</i> of land, |
| 2. A-Š[A] | 2. a field. |
| 3. VI URUDU NA-MA | 3. 6 manas of bronze, |
| 4. MAŠ-APIN | 4. (for) the leader, the shepherd, |
| 5. III BUR URU-MUŠ | 5. (3 <i>Burs</i>) Urumush. |
| 6. II URUDU MA-NA | 6. 2 manas of bronze |
| 7. MAŠ APIN | 7. (for) the leader, the shepherd |
| 8. GAN BUR-[ŠIR-LA] | 8. of the field of Lagash (?), |
-
- | | |
|--|--|
| Rev. I. 1. AN-GU-ZI | Rev. I. 1. Anguzi, |
| 2. CL BUR GAN | 2. 150 <i>Burs</i> of land; |
| 3. XXXVIII ¹ CX URUDU MA-NA | 3. 3810 manas of bronze; |
| 4. XXI LXXII QA ŠE SIG | 4. 21 (<i>gurs</i>) 72 <i>qas</i> of winnowed grain, |
| 5. II BUR BAL | 5. 2 <i>burs</i> of ploughed land; |
| 6. GAN-SAM | 6. land purchased |
-
- | | |
|---------------------------------|----------------------------|
| II. 1. LUGAL-KI-GAL-LA | II. 1. (for) Lugalkigalla, |
| 2. [SIB ⁴ NIN-GIR-SU | 2. priest of Ningirsu. |
| 3. GAN-GAR | 3. Real estate holdings. |

The last line is the name of the account. It designates the kind of account to which the tablet belongs. Similar names are found in the accounts of later time.

On the edge is scratched LUGAL-SAG-NE BA-NU or, "Lugalsagne made it (?)." As a part of the verb may be broken away, we are not able to complete the statement with certainty.

Some of the lines might be translated in more than one way, but a discussion of the technical reasons for the renderings adopted would be out of place here. But a few points of general interest can be noted. The reader will observe that at this early time it made no difference in what order the syllables of a word were written, provided they were all put down. Mana, for example, is sometimes spelled MA-NA, and sometimes NA-MA. A similar freedom was exercised in the order of the sentences. The phrase "of the royal standard of purity" is sometimes far removed from the grain to which it applies.

Two or three points of historical interest may be noted. Shid-mal(?)ru, who is described in col. V, 10 as "the shepherd, the exalted king," was apparently a predecessor of Enkhegal. It is his brother whose purchase of land is recorded in this tablet. I have tentatively read in col. IV, 6 the name of the city Umma, which was a near neighbor of Lagash, with which she was often at war.* Umma in later texts is spelled by the picture of a bow and arrow held in the hand, and this name by the picture of a bow alone, but the reference is probably to the same city in each case.

Again in col. IV, 8 a field is described as GU-GAN, "bank of the field." I take this to be a variant description of the field called in later texts GU-EDIN, "bank of the plain." It was a field which lay between Umma and Lagash, over which the two cities frequently fought.* It was because the men of Umma invaded this plain that Ennatum, a later king of Lagash, undertook the war which is celebrated in the famous stele of Vultures, most of which is preserved in the Louvre, though one fragment of it is in the British Museum.

The reader will notice that along with grain, bronze was used as a medium of exchange. Apparently at this early time the use of silver or gold for this purpose had not begun. We begin to trace their use in the reign of Ur-Nina and his successors, though bronze was sometimes employed for a long time afterward. In Egypt bronze was used as a medium of exchange much longer than it was in Babylonia.

GEORGE A. BARTON.

* See L. W. King, *History of Sumer and Akkad*, p. 121 ff.

ABRAHAM AS THE INVENTOR OF AN IMPROVED PLOW.

IN the MUSEUM JOURNAL, vol. I, p. 4, Prof. A. T. Clay published a reproduction and description of a most interesting seal device; that of an Assyrian plow, drawn by two oxen and attended by a gang of three men, one of whom is engaged at a funnel-shaped apparatus at the side of the plow. Which without doubt is a *seeder*, the seed being fed through it into the furrow just turned up by the plowshare. The same material has been republished by Dr. Clay in the "Publications of the Babylonian Section," vol. II, p. 65f. The seal can be exactly dated from the document to which it is attached, for this bears the date of the fourth year of Nazi-Maruttash, of the fourteenth century B. C. According to Prof. Clay, similar plows with tubes are found on monuments of Sennacherib and Esarhaddon, while they also remain in use in Syria to this day.

It is interesting to note that this seal device illustrates a hitherto obscure passage in an ancient and famous Jewish book. This is the so-called Book of Jubilees, a Judaistic work of the second century B. C., of the character of a Midrash on the biblical Genesis, that is, it tells the inquisitive reader all the thousand and one things which the canonical volume does not vouchsafe to explain in the history of the patriarchs. The story of Abraham is naturally enlarged upon, and much is made of the legend concerning his opposition to the prevailing paganism of Babylonia in the midst of which he was brought up. The people made idols for themselves and indulged in all sorts of abominable practices, and Satan (Mastema) attempted in every way to corrupt and destroy the earth. And so among other things, "the prince Mastema sent ravens and birds to devour the seed which was sown in the land, in order to destroy the land, and rob the children of men of their labors. Before they could plow in the seed, the ravens picked it from the surface of the ground. And for this reason he called his name Terah (*i. e.*, the father of Abraham), because the ravens and the birds reduced them to destitution and devoured their seed."*

Then Abraham is born, distinguishes himself by his youthful piety, and is able by his mere word to turn away the flocks of ravens which came to destroy the crops. The result was that the people were able that year to sow and reap. Thereupon Abraham, we are told, *taught those who made implements for oxen, the artificers in wood,*

* The etymology is obscure. These quotations are from the eleventh chapter and are borrowed from R. H. Charles, *Book of Jubilees*, 1902.

and they made a vessel above the ground, facing the frame of the plow, in order to put the seed thereon, and the seed fell down therefrom upon the share of the plow, and was hidden in the earth, and they no longer feared the ravens. And after this manner they made vessels above the ground on all the frames of the plows, and they sowed and tilled all the land, according as Abraham commanded them, and they no longer feared the birds.

The author of the book, who may have been a Babylonian Jew, has thus made Abraham the inventor of this combination of plow and seeding machine. The ascription of the invention to the patriarch is on a par with the common stock of later Jewish legend, which made of Abraham the discoverer of letters, astronomy and the arts. It is not strange that this wonderful plow, doubtless in common use in the writer's day, was also considered a patent of Father Abraham's.

JAMES A. MONTGOMERY.

NAPOLEON'S EGYPT.

THE President of the Museum, Mr. Eckley B. Coxe, Jr., has recently presented to the Museum Library a copy of the *Description of Egypt* published under the patronage of Napoleon and growing out of his Egyptian campaign. Mr. E. P. Wilkins has kindly contributed the following descriptive notice of this work for the JOURNAL.—Editor.

My attention was recently called to the copy of Napoleon's *Egypt* acquired by the Library of the University Museum. Upon examination my interest was aroused by the fact that this proved to be the only perfect set of the first edition that I have ever had the good fortune to see. It was then that I made some investigation of the history of this important and monumental work with a view to finding the reasons for the varying merits of different copies. It may be interesting to the readers of the JOURNAL to recall something of this history.

Napoleon's *Egypt*, so-called from the fact that it represents the scientific results of Napoleon's Egyptian Expedition in 1798, takes rank as the first great work which revealed to the world the treasures of Ancient Egypt. From the publication of this monumental work dates the real beginning of the long line of scholarly productions

which have added to our knowledge of Egyptian civilization. Before its publication in 1809, the remains of Ancient Egypt were known only through the hasty notes of travelers, or at best the passing notice of explorers who, like Bruce, 1768-1773 (seeking the sources of the Nile), had other objects in view. Before the summer of 1798 no systematic exploration of this immense storehouse of antiquity had ever been undertaken.

ORIGIN OF THE WORK.

When Napoleon's Egyptian expedition was organized, the very unusual and elaborate preparations of its commander gave rise to much speculation. It soon became apparent that it was something more than a mere army of conquest. There was organized an army to fight battles and besiege cities, but there was also equally well organized a select company of eminent scholars and artists, nearly a hundred strong. Once landed on Egyptian soil this two-fold expedition began to operate and to justify itself. While the army was winning victories and magnifying the fame of Napoleon, this little company of scholars was uncovering the ancient civilization of Egypt. Vivant Denon, an enthusiastic member of the expedition, an artist and traveler, noted in his day for his finished and scholarly productions, published an account of their labors in 1802 after his return to France. His vivid and interesting narrative enables us to appreciate the difficulties and problems which confronted them, laboring in a hostile land, surrounded by enemies, in the midst of frequent alarms and the smoke of battle. We may still marvel at the magnificent results which they obtained by unremitting toil, to present to the world in one of the greatest archaeological works ever published.

The fate of this brilliant military enterprise is too well known to need relating here. When the end finally came and the "Army of the East," abandoned by Napoleon, was withdrawn (1802), strenuous efforts were made by the French general to preserve the collections of natural history and antiquities. But General Hutchinson was inflexible and insisted on the delivery to the British of all objects in dispute in accordance with the terms of capitulation. He finally agreed, however, to allow the naturalists to retain their collections entire, but he would not extend the same courtesy to the archaeologists and artists. Hence all collections of ancient manuscripts and

antiquities were turned over, including the greatest find of all, the famous Rosetta Stone. This, of course, was a prize the value of which was too well known to escape the keen eye of the English general. On its delivery to the British (1802) it was immediately sent to England, where it soon found a resting place in the British Museum along with the other "spoils of war." But, nevertheless, it remained for French scholarship to unravel the hieroglyphics by the aid of the three-fold inscription on the stone. The three inscriptions are represented natural size in Napoleon's *Egypt, Antiquités*, Vol. V, plates 52, 53 and 54.



FIG. 52.—A battle scene from the Ramesseum from Napoleon's *Egypt*, greatly reduced.

In 1805 a commission of eight was appointed to collect for publication all the memoirs, monographs and designs of the various members of the expedition, the entire cost to be borne by the state. The publication was to be in fact the scientific results of the Egyptian expedition. Four years later, in 1809, appeared the first instalment of the great work, consisting of a volume of introductory matter, three volumes of plates and three volumes of text, under the general editorship of M. Jomard. The publication was continued at intervals until 1822, when the last instalment was issued.

No greater tribute can be paid to the scholarship which produced this work than the following quotation from an English Journal of 1854: "By its care for scientific and literary interests, the mind of France conquered even when the sword fell from her hand. France brought back a pure and a permanent conquest from Egypt—a conquest unsullied by a crime and undimmed by a tear. The labours of her learned commissioners on the Nile will continue a portion of her intellectual empire to the end of time. No disaster can ever rob her of that glory—so worthily won and so modestly worn." (*Athenæum*, April 1, 1854.)

In the Museum's copy there is a total of 894 separate plates, of which 72 are colored. In addition there are 31 smaller illustrations in the text. The plates measure 21 by 28 inches with the exception of five double size and nineteen triple size folding plates. They are beautifully executed copper plate engravings, representing the best work of a period when engravers were artists and practiced one of the most difficult of the arts. The greatest care was exercised to render these engravings accurate and trustworthy in every detail. The colored plates, executed by hand, are splendid examples of effective coloring. Each plate is in effect a high grade water color from the hand of a skilled artist.

This set of Napoleon's Egypt is a splendid example of the rare and valuable first edition, complete and perfect in every respect, with wide, untrimmed margins and early, sharp impressions of the plates. It is one of the very few complete sets to be found anywhere, and the only complete set that I have been able to find in Philadelphia. Of four other sets that I have had an opportunity of examining, three were found to lack the full complement of colored plates and did not show the clear, sharp impressions so noticeable in the Museum's copy. The fourth copy which I examined, while corresponding fairly well with the Museum's copy in respect to the plates, does not have the text of the first edition, but that of the second. The second edition was published in 1820-1830 in a much inferior style, with poor impressions of the plates and none in colors; while the text was in 26 volumes octavo instead of 9 volumes folio.

I have concluded from my examination of the history of Napoleon's Egypt that only a few sets of the first edition were issued in a complete state with all the colored plates. As they proceeded with the edition the publishers discontinued coloring at least twenty plates, in order to save time and expense. Since each



FIG. 53.—A plate from Napoleon's Egypt, greatly reduced.

engraving had to be colored by hand the saving would be very great. The copy that the Museum has been so fortunate as to acquire is one of these earlier copies on which the greatest pains were expended.

DESCRIPTION OF THE WORK.

Title.—Description de l'Égypte, ou recueil des observations et des recherches qui ont été faites en Égypte pendant l'expédition de l'armée française, publiée par les ordres de sa majesté l'empereur Napoléon le Grand. Paris, de l'imprimerie impériale 1809-1813 (par ordre du gouvernement Paris, de l'imprimerie royale, 1817-1822). Text 9 volumes, folio. Plates 12 vols. atlas folio.

The Text.—The text consists of memoirs and monographs relating to the history, antiquities, geography, natural history, ethnology, etc., of Egypt in both ancient and modern times. It consists of the following volumes:

- Antiquités—Descriptions, 2 vols.
- Antiquités—Mémoires, 2 vols.
- État Moderne, 2 vols., in 3 parts.
- Histoire Naturelle, 2 vols.

The Plates.—The plates following the order of the text are disposed as follows:

1. Antiquités, 5 vols.
2. État Moderne, 2 vols.
3. Histoire Naturelle, 3 vols.
4. Cartes topographiques, 1 vol.
5. Préface historique et explication des planches, 1 v. 1.

To give the reader some idea of the immense mass of material collected by the expedition, and the extent of their explorations we give a brief analysis of these huge volumes.

1. *Antiquités.*

Vol. I.—Philæ, Syene, Elephantine, Ombos, Siêsis, Edfu, El Kab, Latopolis, Hermonthis.

Vol. II.—Thebes, including Medinet Habu, El Kurneh, Tombs of the Kings, etc.

Vol. III.—Thebes, continued, including Luxor and Karnak.

Vol. IV.—Kus, Kuft, Denderah, Abydos, Antæopolis, Lycopolis, Hermopolis Magna, Antinoë, The Heptanomide, etc.

Vol. V.—Memphis and the Pyramids, Babylon, Heliopolis, Athribis, Tanis, Bubastis, The Delta, Alexandria, Busiris, El Faiyum, Sakkareh.

Many of these volumes are rich in manuscripts, inscriptions, figurines, tombs, mummies and minor antiquities.

2. *État Moderne.*

Vol. I and II.—Costumes, Portraits, Vases, Furniture, Musical Instruments, Coins and Inscriptions, all belonging to the modern period.

3. *Histoire Naturelle.*

Vol. I.—Mammals, Birds, Reptiles, Fishes.

Vol. II.—Invertebrates.

Vol. II.—Second Part—Botany, Mineralogy.

4. *Cartes topographiques.*

including surveys, plans, etc., from the island of Philæ to the Mediterranean.

E. P. WILKINS.

THE LILITH LEGEND.

AMONG the magical texts in the Museum is the following, which belongs to a widespread category of Jewish charms:

Shaddai

Sanui Sansanui Seniniglaph Adam YHWH Kadmon Life Lilith.

In the name of Y" the God of Israel who besits the cherubs, whose name is living and enduring forever. Elija the prophet was walking in the road and he met the wicked Lilith and all her band. He said to her, Where art thou going, Foul one and Spirit of foulness, with all thy foul band walking along? And she answered and said to him: My lord Elija, I am going to the house of the woman in childbirth who is in pangs (?), of So-and-so daughter of Such-a-one, to give her the sleep of death and to take the child she is bearing, to suck his blood and to suck the marrow of his bones and to devour his flesh. And said Elija the prophet—blessed his name!—With a ban from the Name—bless it!—shalt thou be restrained and like

a stone shalt thou be! And she answered and said to him: For the sake of Y" postpone the ban and I will flee, and will swear to thee in the name of Y" God of Israel that I will let go this business in the case of this woman in childbirth and the child to be born to her and every inmate so as do no injury. And every time that they repeat or I see my names written, it will not be in the power of me or of all my band to do evil or harm. And these are my names: Lilith, Abitar (Abito?), Abikar (Abiko?), Amorpho, Hakaš, Odam, Kephido, Ailo, Matrota, Abnukta, Šatriha, Kali, Batzeh, Talui, Kitša. And Elija answered and said to her: Lo, I adjure thee and all thy band, in the name of Y" God of Israel, by gematria 613, Abraham, Isaac and Jacob, and in the name of his holy Shekina, and in the name of the ten holy Seraphs, the Wheels and the holy Beasts and the Ten Books of the Law, and by the might of the God of Hosts, blessed is he!—that thou come not, thou nor thy band to injure this woman or the child she is bearing, nor to drink his blood nor to suck the marrow of his bones nor to devour his flesh, nor to touch them neither in their 256 limbs nor in their 365 ligaments and veins, even as she is (= thou art?) not able to count the number of the stars of heaven nor to dry up the water of the sea. In the name of: 'Hasdiel Šamriel has rent Satan.'

Such charms as these are still hung up in Jewish households, with the special intention of warding off the demon who lies in wait with hateful jealousy to destroy the born or unborn child and to injure its mother. This form of incantation is typical of many of the characteristic elements of magic as found throughout the ages. The Lilith is one of the hoariest conceptions of the superstitious imagination. She goes back to the early Babylonian magic, and bears a Sumerian name; she appears in the Old Testament (Isaiah 34, 14) as a desert-haunting demon; a vast amount of Jewish lore developed about her, making her the first wife of Adam (or his wife after the Fall), from which union sprang a host of demons. She early came to be regarded as the demon jealous of the love of the sexes, and her peculiar penchant is the frustration of their natural union, so that women and children are the special objects of her malignity. Psychologically she is the product of the neurotic pathology of the female sex.

The form of the incantation is also instructive. It reads in the style of a narrative, the story being told how the Lilith once met the Prophet Elijah and was worsted by his exorcism. This

legendary form of incantation is a form of sympathetic magic; the mere telling of the story reproduces the identical result over again. Thus in the old Babylonian magic the pest-god Dibbarra could be thwarted by repeating the myth of his defeat at the hand of the good gods. In fact any narrative about a demon had virtue, as exhibiting the power of knowledge over him.

But the potency of the charm lies peculiarly in the recitation of the Lilith's names. In a parallel charm it is prescribed that the list of her names be hung up in the bedchamber and they avail to avert the demon. This name-magic is the extreme exemplification of the idea of the power of magical knowledge. To know the name of god or demon in ancient magic and religion endowed the possessor of the mystery with influence over the supernatural being. A classical instance of this is found in the legend in Genesis 32, 22f, where Jacob demands the name of the god who wrestled with him and the latter refuses to give it.

But apart from these elements this magical legend has great interest on account of its appearance in widely different languages and literatures, and because it itself bears the traces of eclectic origin, having picked up in its journey through the ages elements from very diverse quarters. An interesting chapter on the history of the legend has been given by Dr. M. Gaster in *Folklore*, xi (whole number xlv), 129, entitled "Two Thousand Years of Charm Against the Child-Stealing Witch." He draws from a large stock of Slavonic, Rumanian, modern Greek and Syriac literature, to which I can also add some earlier examples from the Greek and from Italy. The Lilith of the Orient becomes identified with the witch of the Occident, who is always a half uncanny creature in the older magic, although rationalized later into a woman possessed by a demon.

A comparison of the different forms of the legend scattered over this wide area shows that they proceed from the same melting pot of the magic of the old Mediterranean world, in which the elements are so fused that it is difficult to work out a genealogy of the magic. The East and the West borrowed from, and gave to, each other mutually. Thus the opening words of our charm, which are Jewish, Sanui, Sansanui produced a Saint Sisoe or Sisynios, who is a great help against the demons in the Byzantine and Balkan world. Also the several different forms of the legend correspond to a large extent in the names given to the Lilith or Witch. To give some examples, the first name in our charm, Lilith

has as its parallel in Greek forms *Gelou*, in the Syriac *Geos*, which two words are descended from the ancient Babylonian demon name, the *Gallu*. *Abixa* is found as *Abiza* or *Abuzou* in the Greek, and *Avezuba* in the Rumanian. The fourth name *Amorphos* is actually a Greek word, "shapeless," and of more correct form than the *Morphos* which appears in the Greek texts. The name *Kali* is represented in translation in the Greek of *Phlegumon* ("burning"), etc. The persistence and interchange of these names are interesting and instructive phenomena.

Also the Prophet *Elijah* has his appropriate counterparts in the other legends. In the Christian legends this may be the Virgin *Mary*, *St. Michael*, or even *Christ* himself; or some less eminent saint, the *St. Sisoe* whose origin has been indicated above, or one of the numerous obscure Syriac saints, *e. g.* *Mar Ebedishu*. A document like this carries us back through the ages and religions, Slavonic, Greek, Italian, Syriac, Hebrew—Christian, Pagan, Jewish—to most primitive elements of the Babylonian magic. The same form of charm is found in Christian books, on Greek manuscripts, on the bowls from *Nippur*, and still hangs in the bedchamber of Jewish women.

JAMES A. MONTGOMERY.

NOTES.

In 1897 the Museum acquired, together with a collection of Greek vases now on exhibition, a large box of fragments of Attic ware. These fragments have lately been sorted with the result that parts of several black-figured vases of good style have been put together. Among the scenes depicted upon them are Theseus wrestling with the Minotaur; Heracles lifting the Erymanthian boar above the head of Eurystheus who has taken refuge in a jar; several four-horse chariots; an amusing scene of sporting satyrs; and Dionysiac revels. Noteworthy also are a fragment from a red-figured vase representing the first position of a discus thrower and a red-figured kylix depicting a youth writing on a tablet.

The Museum has just purchased a collection of antique glass consisting of about three hundred vases, together with a number of glass bracelets and necklaces. There are also in the collection a number of necklaces of amethyst, agate, rock crystal and carnelian. The entire collection came from Palestine and the greater part is of Roman manufacture and dates from the time when Palestine was a Roman province. There are, however, a number of pieces of more ancient date representing earlier stages in the manufacture of glass vessels. The collection, which has been made with care and intelligence, includes almost every category of vases and every technique of the glass blower. The vases show a great variety of form and many of them exhibit in a marked degree the brilliant iridescence which gives to the collection the effect of great variety in color. The collection will be fully described in a forthcoming number of the JOURNAL.

The antiquities sent to the Museum from the excavations last year in Crete were held at Piræus on account of the war. This has caused them to be delayed for six months in reaching the Museum. Advices have now been received to the effect that they are on their way and will reach the Museum soon.

Mr. William Evans Wood has presented a pair of antique Pompeian vases in the name of his father and mother, Horatio C. Wood and Abigail Wood.

The British School of Archaeology in Egypt, through Prof. Linders-Petrie, has presented to the Museum a granite sphinx with

the head of Rameses II, discovered by Prof. Petrie last year on the site of ancient Memphis. This sphinx, which rests on an inscribed pedestal, is, with the exception of portions of the face, in a perfect state of preservation. It is now on its way from Cairo to Philadelphia.

Dr. Arno Poebel, who contributes the leading article in this number of the *JOURNAL* giving an account of his work in the Museum during the summer of 1912, has been engaged for five months beginning the first of June, to continue his work of copying and studying the historical documents contained in the collection of Babylonian tablets in the Museum.

The Heye Collections have been enriched by the addition of old North American ethnological specimens collected many years ago and until recently forming part of a public exhibition in England. Among the rarer objects in this collection are a buffalo hide shield, with painted cover, a finely wrought Nascape coat with characteristic decorations and three pairs of Nascape leggings decorated by the same method and in similar style to the coat. The collection also contains a number of very fine old eastern porcupine quill embroideries.

Mr. B. W. Leeson has been engaged to make a series of photographs of the Quatsino Indians in the northern part of Vancouver Island.

An ethnological collection from the Bushongo, consisting of choice selected articles, has been purchased from Mr. E. Torday, the African explorer. These articles were procured from the Bushongo by Mr. Torday during his last African expedition.

A remarkable ethnological collection consisting of 859 specimens representing New Zealand, Tonga, Fiji, Australia and British New Guinea has just been acquired by purchase. This collection contains many of the old and rare carvings of the aboriginal peoples of these several portions of Polynesia and Melanesia. The Australian part of the collection is entirely from the northern part of that continent, in the vicinity of Torres Straits. Apart from the artistic quality presented by many of the objects in this collection, it represents

the arms and armour, the domestic utensils, ceremonial objects, clothing, personal ornaments and musical instruments of the several different culture areas comprised in the geographical limits indicated.

An exchange of ethnological material has been effected with the Australian Museum at Sydney by which the Museum has acquired a valuable series of aboriginal weapons from New South Wales, West Australia, Queensland, North Australia and Central Australia.

Mr. Harvey M. and Mr. W. C. Watts have presented to the Museum a pair of ivory war trumpets and a small collection of other ivories from the Congo.

Accompanying the collection of Herrero ethnology recently purchased, is a valuable series of photographs of the Herreros made before the German war and showing their costumes and occupations.

A collection of thirty-five photographs of Oriental peoples has been received as a gift from Mrs. H. M. Story.

The American Association of Museums, which met in Philadelphia from June 3d to 5th, spent the forenoon of June 4th in the Museum for the inspection of the collections and the reading of papers.

The foundations of the extension of the new building have been finished and the walls have been erected to the level of the auditorium floor. The pillars supporting this floor and the floor itself, which are of reinforced concrete, are also in place.

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FIG. 54.—The Hamatta. Devourer of human flesh.



FIG. 55.—The Hamatsa. This and the preceding picture show the performance of the "cannibal dance". The Hamatsa wears headband and neckring made of cedar bark.

INDIANS OF THE NORTHWEST

THE Northwest Coast of America is inhabited by a number of Indian tribes who possess a culture differing in a remarkable way from that of all the other Indians. While these tribes are thus marked off sharply from the other North American Indians, it is not to be inferred that this difference is due either to Asiatic



FIG. 56.—The doorway of a house at Koskimo village. The girl in the doorway wears the old time costume made entirely of cedar bark. She carries in her hand a basket of the same material.

origins or to Asiatic influence. Statements to the effect that the Haidas or the Tlingit resemble Japanese or other Asiatic peoples in their personal appearance and in their customs should not be taken too seriously. The fact is that the Indians of the Northwest Coast, including the Tlingit, the Haida, the Tsimshian and Kwa-

kiutl, possess a culture peculiar to themselves. They inhabit the mountainous seaboard of Southeastern Alaska and British Columbia and the islands off the coast. In language and in their personal appearance, these tribes differ from each other, but in arts and crafts, customs and beliefs they are so uniform and distinct that they are



FIG. 37.—Quatsino woman picking berries.

much more easily recognized as a separate group than any of the other peoples of North America. The most northerly of these peoples are the Tlingit, which include the Chilkat; in the middle area are the Kwakiutl. The two Kwakiutl tribes, the Koskimo and Quatsino, are on the northern end of Vancouver Island. These



FIG. 58.—Keekimo man and wife.



FIG. 39.—A Quakwaka elder.

two tribes have recently been photographed on behalf of the Museum by Mr. B. W. Leeson, who has also collected data relative to their customs. Some of these photographs are here reproduced.

The Kwakiutl have a number of secret societies. The members of these societies perform a very strange ceremony in the winter time. This ceremony is accompanied by dances of a peculiar character. The Hamatsa is a member of one of the secret societies



FIG. 60.—A Kwakiutl woman.

upon whom a guardian spirit has conferred the gift of eating human flesh. During the dances referred to, the Hamatsa, in a state of frenzy induced by the ceremony and its mythical associations, endeavors to seize and devour whomsoever he can lay his hands on, bites pieces out of his enemies and devours the bodies of slaves killed for the purpose. In this condition he also eats human corpses which he takes from the burials in the trees.

In Fig. 34 the Hamatsa is shown in the position which he assumes in the dance at the time of his greatest excitement, during which he appears to be searching for human flesh to eat.



FIG. 34.—A Quatsino belly

It will be seen from the photographs of the Quatsino that they have the custom of artificially deforming their heads.

It is characteristic of all the Northwest Coast tribes that they

have numerous distinguishing crests which they display upon their houses, and otherwise proclaim. These crests or totems represent animals.

In Fig. 56 is shown the doorway of a Koskimo house. This doorway represents the jaws of a fabulous monster that lived in the water at the mouth of Cache Creek where the Koskimo formerly



FIG. 56.—A wedding ceremony. The Koskimo bridegroom has arrived with his party. At the landing, songs are sung and speeches are made by the visitors and by the people on shore. The picture is made during the singing.

had their abode. The legend concerning this doorway and its heraldic device is as follows.

In very early times there came on Cache Creek a very large fish known as Stokish. Locating itself where the Indians were accustomed to come for water, this monster gradually decimated the tribe in the following manner. When the people came down for water, the fish, hidden at the bottom of the river, would open its huge mouth and as the water rushed in, the people were sucked in with

it. Finally the tribe was reduced to one old man and a young girl. (It is this old man whose face is carved over the door shown in Fig. 56.) The old man and maid were afraid to go to the river for water, knowing that they would be devoured if they did so. At this time there appeared a stranger called Kankokala (who it seems was a kind of supernatural being and a saviour) and the old man and the maid related to him the story of Stokish. Kankokala took off his belt and placing it around the girl, bade her go unafraid to



FIG. 63.—A wedding ceremony. After the speeches have been made and the songs finished, the blankets are unloaded to pay for the bride.

bring water. Thereupon the old man was seized with fear that he would be left alone and protested against the suggestion. Finally the maid went to fetch water by Kankokala's command and was swallowed up like the rest of her tribe. The old man, now being left alone, set up a doleful lamentation until Kankokala led him by gentle persuasion to the place where his tribe had been devoured by Stokish. Upon their arrival they saw the monster wallowing in the water in great agony. At last, precipitating himself upon the bank he burst open, whereupon the young girl stepped out alive and

well. At the same time, the skeletons of the lost tribe came to light and were scattered over the shore. The old man recognized his tribesmen and started to call them by their names. Then he began putting the bones together, taking care that each man and woman should be made up of his and her own parts. Kankokala then sprinkled the bones with water, whereupon they became clothed with flesh and all the tribe came to life, rubbing their eyes as though they had been asleep. The old man, however, had made some



FIG. 64. —Wattese village and dance party.

mistakes and occasionally got the parts mixed; that is why to this day some people are born deformed and why you sometimes see a man with one leg shorter than another.

In addition to the pictures of the Kwakiutl there will be found in the following pages some observations on the Tlingit, prepared by Mr. and Mrs. Louis Shotridge.

Mr. Louis Shotridge, an assistant in the Museum, is a full blood Tlingit from Klukwan Village on the Chilkat River in South-eastern Alaska. His father was head chief of the Raven side in

Chilkat, and his house was the Whale House. His mother belonged to the chief family of the Eagle side and consequently was a member of the Ka-wa-gan-i-hit-tan (usually pronounced Kagwantan) clan and belonged to the Finned House. Therefore, Louis Shotridge is an Eagle of the Kagwantan clan and his house would be the Finned House. Mrs. Shotridge is a Raven of the Hlukahade clan and belongs to the Mountain House.

Shotridge has made for the Museum a model of a section of



FIG. 65.—Qualsine village.

his native village of Klukwan and also the drawings which illustrate the articles in the following pages. These articles are written from personal knowledge of Chilkat customs under the influence of which the authors were brought up. Their own education was in accord with Indian practices, and involved the matters of which they write. Whether or not Mr. and Mrs. Shotridge's statements are always in accord with the observations of others who have written on the subject, it is interesting to record the recollections of members of the tribe who were brought up according to the old traditions.—EDITOR.

CHILKAT HOUSES

To our tribe and the other tribes inhabiting the coast of South-eastern Alaska and farther down the coast of British Columbia, the "wigwam" or "tepee" was not familiar. Substantial dwellings of timber which were the permanent homes of the natives were built in the main villages. A man was proud to be known as a member of his home town where he was born and raised. Aristocracy among our people was far stronger years ago than it is to-day.

During the four seasons of the year it was necessary for the



FIG. 66.—Quatsino woman with canoe at winter harbour.

Indians to hunt for the things which each season brought, and for these occasions temporary shelters were necessary, the kind of shelter depending on whether the journeys were taken on land or on water.

Journeys on foot, taken into the far inland during the winter and summer, called for shelters which could be easily carried and which were appropriate for the condition of the weather. During the dry season no shelter was needed for the night. In the rainy season, however, skin tents were used in the open and brush shelters

in the woods. Journeys by water were a much easier task, all the requirements for bodily comfort being placed in the canoe. Skin tents were taken along to be erected on shore at night.

The permanent villages consist of provision houses, ordinary dwellings, and family houses. Provision houses are those where foods of all kinds are cured and stored. Ordinary dwellings are homes of the masses. Family houses are those with names, as "Yehl Hit" or Raven House, "Hoots Hit" or Grizzly Bear House, owned



FIG. 67.—A chief's house. Kaskima.

by families of the classes. The occupants of a family house are the head man or "Master of the House" and his family, relatives, and sometimes distant relations. In this house also are held feasts, councils, and gatherings for all public interests. The chief's family house, although it may not be very elaborately finished, is looked to with much regard. In it are kept the old relics, such as ceremonial costumes, helmets, batons, carved and painted screens and posts, all original things that had been in the possession of the chief's ancestors. In it also are held the more important public meetings.

In order to fully appreciate the importance of a "family house," it will be necessary to tell how society is organized among our people.

The Tlingit are separated socially into two sides. One side is known as the Raven, the other as the Eagle. This division is based on ties of blood, for the members of one side are said to be kindred; therefore the Raven man marries the Eagle woman and the Eagle man marries the Raven woman, while the children always belong to the mother's "side." In times of war, or when there is an uprising of one side against the other side, the mother takes the children to the house of her uncles and brothers or to her side, while her husband would be on the opposite side and stay apart until trouble ceased.

Each side is subdivided into clans, the members of which are more closely related to one another than to the whole of one side. Clan with us means a collection of families under the same totem. Totem is a figure of a bird, beast or the like used to distinguish to which side a clan belongs, whether the Eagle or the Raven, for though the same totem may be used by different clans on the same side, the same totem is never used by clans on opposite sides. Finally, the clans are subdivided into families or house groups, the members of which may own one or several houses, though very few own more than one.

As there are classes among all nations, so are there classes among our people. Although the clans are said to be higher and lower than one another, yet with the families the grade is more emphasized. The different classes were and are: families of the nobility, who were few in number and to-day are still less; families of the high caste, among whom grades of a certain kind are recognized; artists, who are looked to by all classes with a certain courtesy and who may come from any class; families who have worked themselves up with wealth but can not buy themselves into the high caste so as to be their equals; then the common people.

To prevent troubles and wars, the Indians were careful to marry their equals, for if they made unequal marriages, as was sometimes the case, there would be a feeling on one side or the other caused by one being lower or higher in birth than the other and a little disagreement would spring up, something of which one was sensitive, affecting both families, and if very serious, both clans, causing

bloodshed and sometimes war. Of course these things happened very seldom; to-day such troubles don't go beyond families.

The brother of the chief or his sister's son is his lawful successor. If there are several brothers or nephews, the council of the side composed of the masters of the houses decides which shall be chief.

Some houses have been entirely lost through want of a proper head. To prevent such calamities the more conservative families have given their sons special training in order to preserve the name of the house and of the family.

There is no ceremony connected with building the ordinary houses and the houses where provisions are prepared and kept. The erection of a family house, being a monument to the family, is, however, a formal occasion. Distinguished persons of the opposite side are called together by the chief and his relatives, and to them is assigned the supervision of the work. Posts, beams, planks and other parts are allotted to a number of men. These massive structures were formerly built with the stone and wooden implements used by the Indians.

The carvings and paintings were usually done by famous artists. I (Mrs. Shotridge is writing) have often heard my father say with pride that his house totems were painted by Shkeeleka. Shkeeleka was of the nobility of the Raven side and besides being the most famous chief of the Ravens was a clever artist as well. These house totems are very old, having been erected by my father's ancestors. They were repainted by Shkeeleka when my father was a boy. I can remember the rebuilding of the house, or rather some incidents connected with it, although I was then but a small child. What impressed me most was the mountain of steps at the entrance. I was so tired going up these steps that I begged to be carried in the ceremony attending the opening of the house. A long line of women dancers formed around the room, and I cried to be allowed to dance with my aunt. They finally gave permission in spite of the fact that I was of the Raven side and the dancers were of my father's side, the Eagle. This was but one of the many dances which were performed during the feast which attends the opening of a family house and lasts a week. There were a certain number of them, each being danced in its order.

In these houses with the opening in the roof for smoke and air kept open day and night the year round, it was impossible to have

impure air, and diseases common among the white men were almost unknown to the Indian. Very few of these houses are to be seen to-day as they are being replaced by modern dwellings.

The analysis on page 100 shows the social organization of the Tlingit.

The Eagle side in Chilkat was divided into three clans, and each was named through some incident that occurred to it during the traditional migration from the south to Chilkat. It is said that at one time the three clans were classed under one head, namely, *Shun-gu-kay-de*. At one camping place the head family lost their winter camping house by fire. Further on nearly half of the moving party lost their course in the fog and strayed into the inside passage, which caused delay in reaching their destination. Some of the party got discouraged, and contented themselves at some favored sand beach until some one grew with courage enough to go on, and these finally reached their destination. Since then the first group is called *Ka-wa-gan-i-hit-lan*, meaning the people of the house that burned; the second is called *Dak-da-wo-si-dak-i-na*, meaning the people that strayed into the inside passage; and the third is called *Dak-cla-wo-ya-da*, meaning the people of the inside sand beach.

The Raven side divided and received their individual clan names in a similar way.

Finally the clans were subdivided into house groups, the members of which might occupy one or more houses.

According to the strict rules of the tribe, one must marry his equal in blood from the opposite side, that is to say the Eagle man, of the Grizzly Bear, Killer-Whale or the Finned houses, may choose his wife from either the Whale or the Raven house of the opposite or the Raven side; but their children always belong to the mother's or the Raven side. In this case, if the son should take his office on his or the Raven side, while the father is yet holding his on the opposite or the Eagle side, they (father and son) would have to be against each other if some trouble should rise between the two sides.

Each one of the house groups of both sides always has a head man, who at times of councils acts as the representative of his own house group. For instance, if the chief of the Eagle side should call an important meeting or council, the head man of the Young Tree house would act as a voice for his own group, of which he is also a captain at times of war.

CHILKAT DWELLING HOUSE

In olden times, when Chilkat people were yet large in number, the dwelling houses of the chiefs, which were frequently opened for public meetings, such as might be councils or festivals, were built much larger than those of recent years. These old time houses were

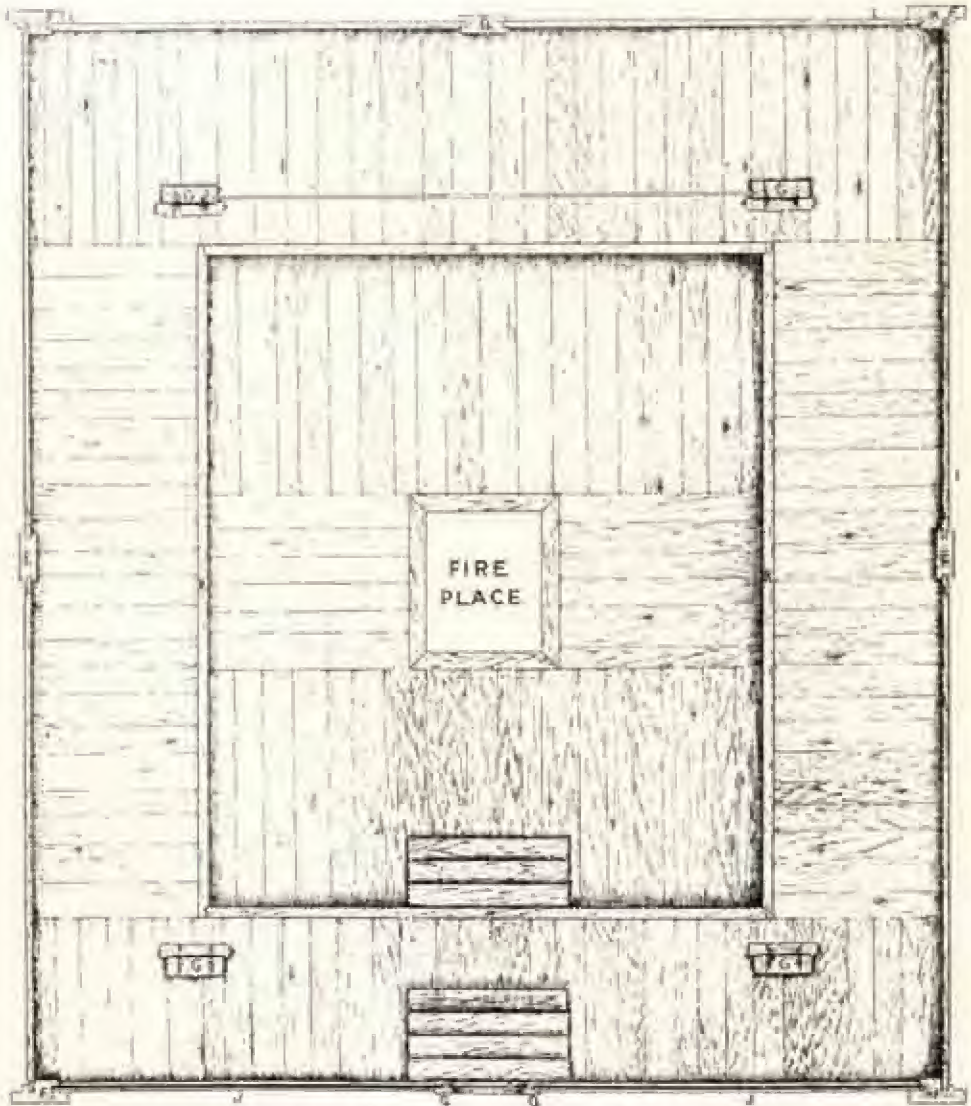


FIG. 68.—Chilkat dwelling house. Floor plan.

erected entirely without nails or spikes, but all the different parts were made so as to support one another.

Spruce being the only tough and straight large tree that grows near Chilkat, was used for nearly all the timber of the framework of

a dwelling house, while hemlock, although it is not as tough as the spruce, but splits better, was made into boards and planks. Instead of hemlock for finishing work of both interior and exterior in some of the houses of well-to-do people, red cedar was used, which was not a native wood of that section of the territory, but was transported by canoes mostly from the Queen Charlotte Islands.

In those days measurements were made by the thickness of the fingers, the span of the hand and the joints of the arms.

The methods of erecting a permanent dwelling house which are illustrated by the drawings are those commonly known among

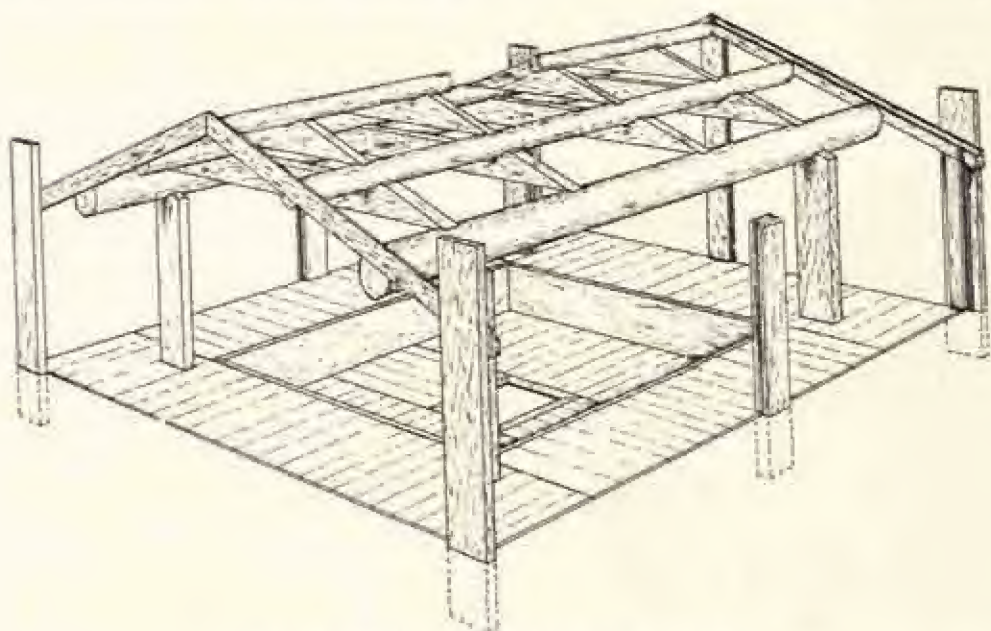


FIG. 69.—Chilkat dwelling house. Framework.

the Chilkats. In the house selected for illustration the main roof beams are $44\frac{1}{2}$ feet long and 2 feet in diameter. All the other parts are in proportion.

All the materials for these houses were made from selected trees which had to be straight and free from knots. The trees to form the great roof beams were first felled, cut to the proper length and cleared of the bark; then they were reduced to uniform diameters by chipping with the stone adze. The upper roof beams were made in the same way, but of smaller trees. The ridge beam likewise was of a still smaller tree and might not be more than twelve inches in diameter. The corner posts and the side posts were dressed

to the proper size and form by reducing the logs cut to the proper lengths by splitting with wedges and afterwards dressing with the adze. By means of the adze the grooves were cut out from the edges of these posts to uniform depth and thickness to take the ends of the planks forming the walls. The great planks that formed the walls were split from logs of straight-grained hemlock to uniform thickness by means of wedges. The covering of the roof was composed of heavy split shingles.

While the planks on the sides of the houses and rear were placed horizontally, those on the front were placed vertically, their lower ends being fitted into the grooves in a heavy base plank lying horizontally like a sill between the two front corner posts.

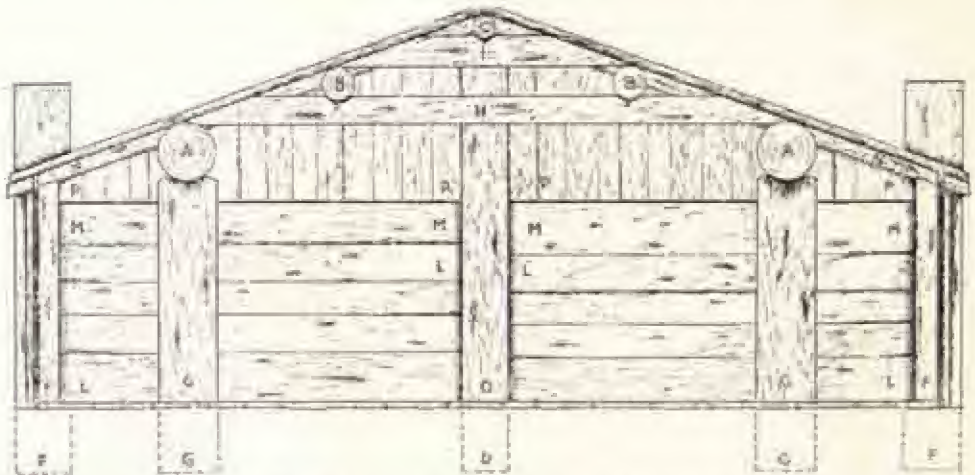


FIG. 70.—Dwelling house. Interior, rear wall and framework.

In the inside arrangement of the houses were two floor levels, the middle area being depressed about two feet, leaving the upper area like a raised embankment. Both of these areas were covered with plank floors, which, after being laid in place, were smoothed off by means of the stone adze. In the middle or lower area, an open pit without floor was left for the fireplace. On the outer and upper floor area were provided the sleeping arrangements. Since the inner floor level was below the outer ground level this part of the house was free from draughts. The threshold of the door was also raised and reached by a flight of steps from the outside as well as from the inside. This was to clear the average snow level in winter. In the middle of the roof, directly over the fireplace, was the smoke hole. Sometimes this was protected on both sides or on one side by

wind-breaks, but this device was not altogether approved since it shut out a good deal of the light.

Four great pillars were set up in the interior at equal distances from the corners to support the heavy roof trees. These were carved with the heraldic devices of the family. Between the two rear posts so erected was usually placed a great carved screen with an opening in the middle; beyond this screen was the chief's private apartment.

The space on the upper floor level or embankment was usually divided according to the number of people who were to live in the house. Those preferring privacy were given the privilege of enclosing their sleeping places by means of screens. Some of these enclosed

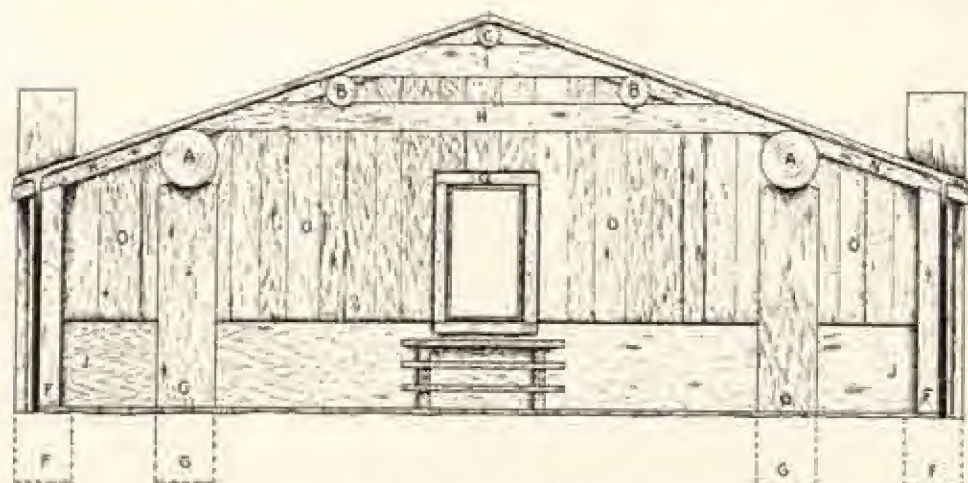


FIG. 71.—Dwelling house. Interior, front wall and framework.

sleeping apartments were built with an upper story. Noted warriors of the family living in the house were permitted to have the titles of their war parties carved on the front screen of their sleeping apartments.

SMOKE OR FOOD PREPARING HOUSE

This was usually constructed near the water's edge for convenience. It is similar in construction to that of the dwelling house with the exception of the framework of the roof, which consists of rafters with horizontal poles supporting the shingles.

The interior of the smoke house differs from that of the dwelling house. The middle floor area is not depressed. There are three fireplaces, one in the middle and one at either side. Over each



FIG. 72.—Sketch showing the manufacturing of boards and planks.

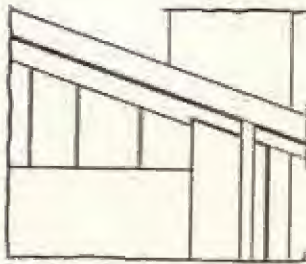


FIG. 73.—The lower end of the cornice is slightly notched where it rests on the shoulder of the corner-post.



FIG. 74.—Sketch showing the making of a corner-post.

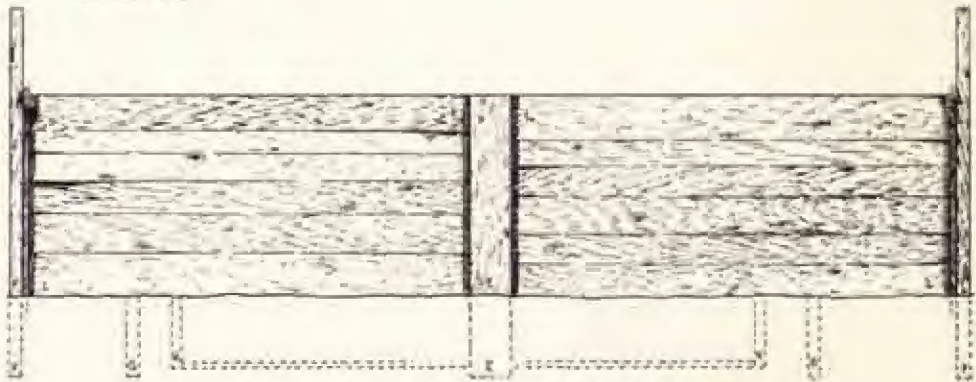


FIG. 75.—Dwelling house. Exterior side wall.

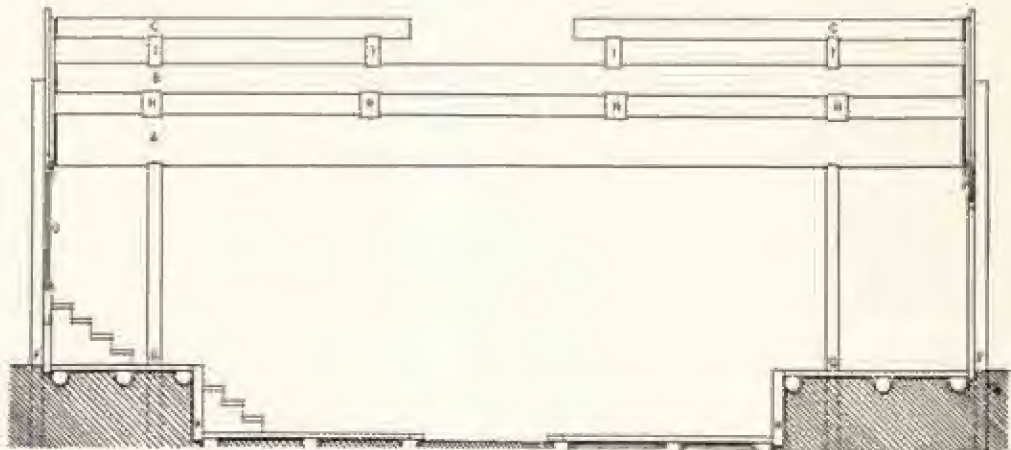


FIG. 76.—Longitudinal section, showing construction of dwelling house.



FIG. 77.—Food preparing house. Floor plan.

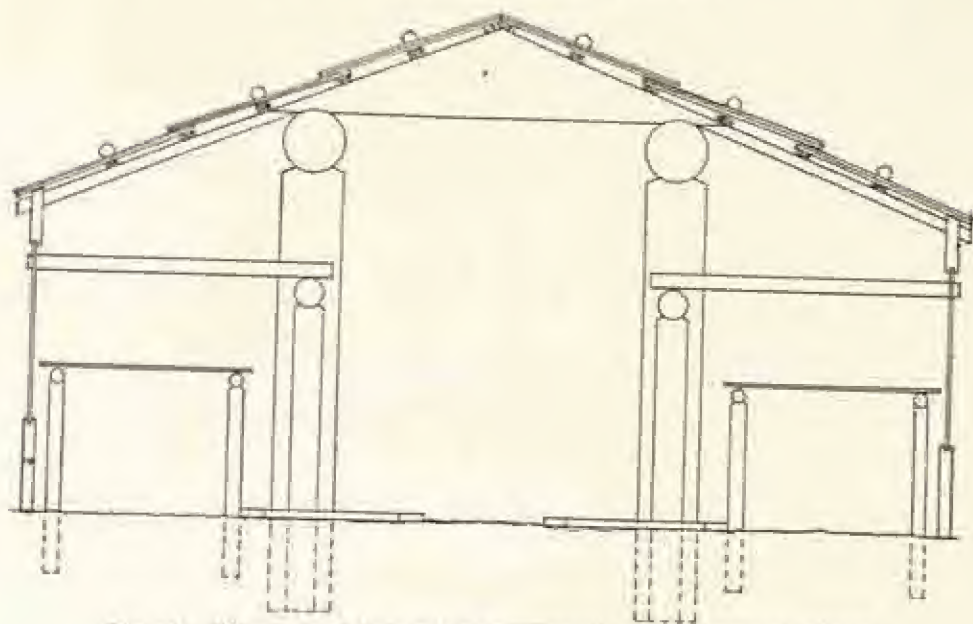


FIG. 78.—Transverse section, showing construction of food preparing house.

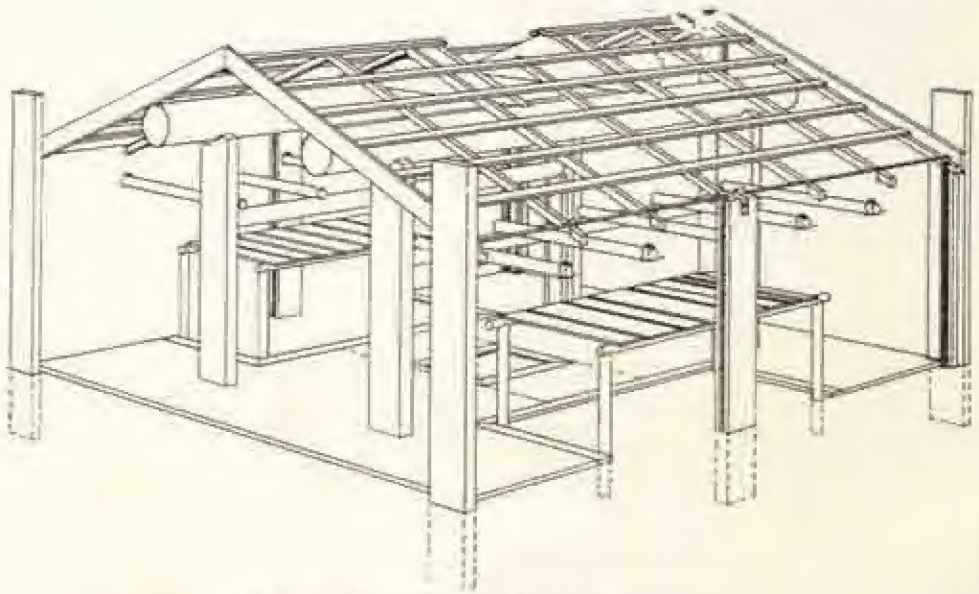


FIG. 79.—Food preparing house. Framework.

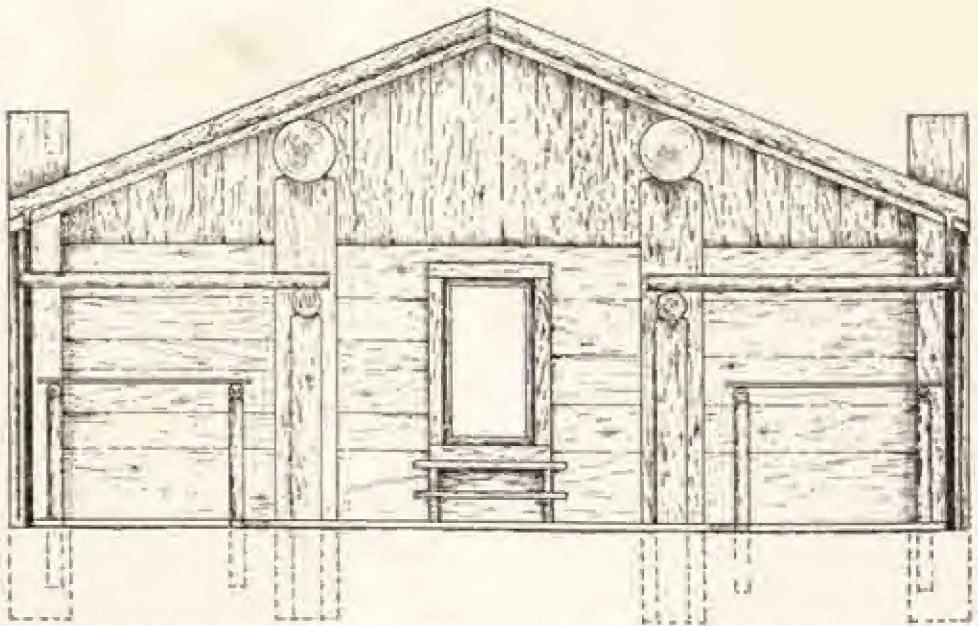


FIG. 80.—Food preparing house. Interior, front wall and framework.

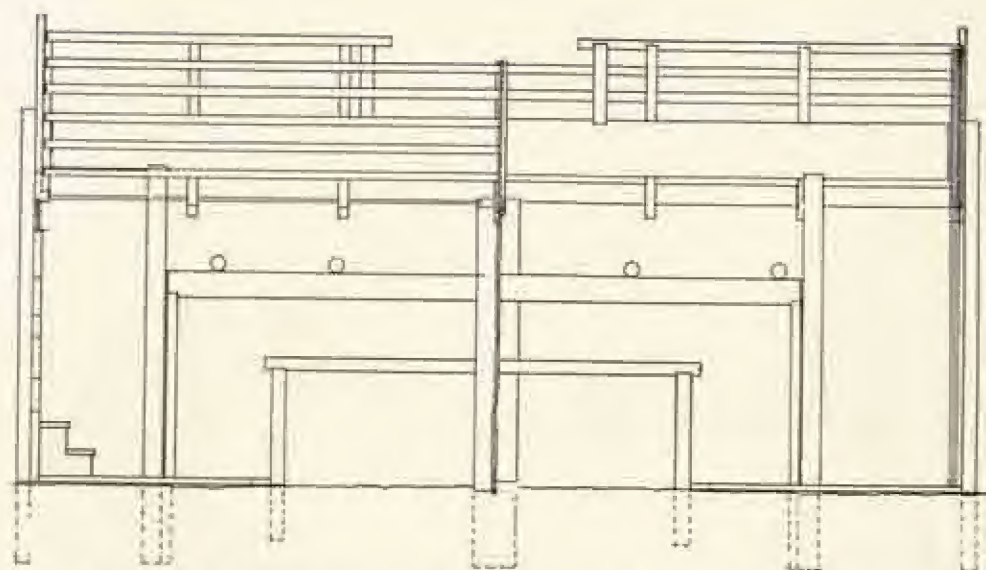


FIG. 81.—Longitudinal drawing, showing construction of food preparing house.

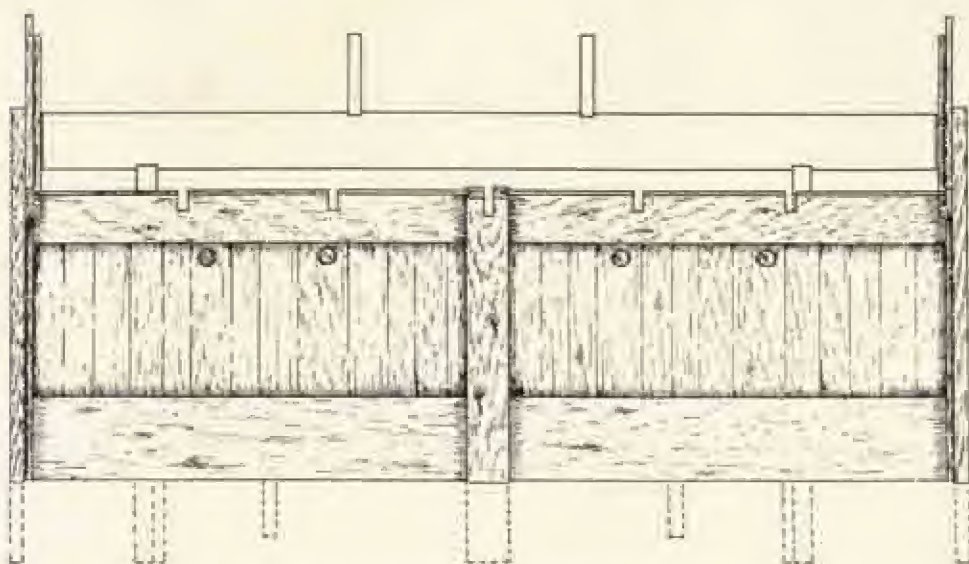


FIG. 82.—Food preparing house. Exterior, side wall.

of the fireplaces is erected a smoke spreader. These consist of boards resting on poles which, in their turn, are supported on posts.

In the old days it was usual to secure the shingles of the roof on all classes of houses by means of horizontal poles weighted down by heavy stones. Sometimes, however, instead of being weighted with stones, horizontal poles were lashed by means of spruce withes passing through holes burned in the shingles for this purpose.

HOUSE POSTS AND SCREENS AND THEIR HERALDRY

With the introduction of steel and iron implements among the tribes of the Northwest Coast totem poles became numerous. Numbers of them could be seen in front of houses in the more southern villages. But before the modern tools, it is said, totem poles were rare, not only on account of the difficulty in the making—as stone and wood were used for tools—but the desire to keep them strictly distinctive was a reason for their scarcity.

One often hears it said by the older people that originally totem poles were used inside of the houses only, to support the huge roof beams. The carvings and paintings on them were usually those of the family crests. These posts were regarded with respect very much as a flag is by a nation. Even when the Chilkats had acquired modern tools with which to make totem poles they did not fill their villages with tall poles like some other tribes, chiefly because they wanted to keep to the original idea.

The figures seen on a totem pole are the principal subjects taken from tradition treating of the family's history. These traditions may treat of the family's rise to prominence or of the heroic exploit of one of its members. From such subjects the crests are derived.

In some houses, in the rear between the two carved posts, a screen is fitted, forming a kind of partition which is always carved and painted. Behind this screen is the chief's sleeping place.

The smaller screens along the side walls are seldom decorated, as this is done only when a chief's nephew or brother has distinguished himself in war. One of these small screens is shown in Fig. 83*b*. The emblem is "Killer Whale." It is said that this emblem was adopted by the Kagwantans during the war times, when they were at war with the southern tribes who live on the shores of the main ocean where these deep-sea fishes are common. The Kagwantans (Ka-wa-gan-i-hit-tan) are a clan of the Tlingit tribe and

are noted for their bravery and audacity, besides being known as the strongest clan in southeastern Alaska.

The grizzly bear is their highest crest. The origin of it comes from the girl taken by a bear for wife. The story is often told in the following manner.

There once lived a chief who had many sons and an only daughter. The girl was beautiful, just growing into womanhood, and was much sought after by young men from many villages, but all were refused for some reason. The boys were great hunters and brought rich furs to be made in garments and robes for their sister.

One day the princess and her friends formed a little party and went berry-picking. After gathering all they wanted they started for home. After they had gone a short distance, the princess stepped in a bear's track and slipped, remarking at the same time something uncomplimentary about bears, which was considered wrong, for it was believed that the spirit of an animal could hear and would often treat the offender according to the offense. The girls stopped and helped the princess up. A few steps farther the pack-strap of her basket broke; the girls waited until she fastened it, but after going a short distance the strap broke again; this time she told her companions to keep on going, she would catch up with them in a little while. It was dusk already. The girls went on and left her to fix her strap. While she was working on it she heard footsteps behind her. With a frightened look she turned and saw a handsome young man standing close by. He offered her assistance; she accepted; he picked up the basket and told her to follow him, which she did. Late in the evening they reached the village, but it was not the girl's home. She immediately thought that this young man was the prince she was waiting for and that he had come to take her to wife. Feeling that she did right in following him she decided not to speak to him just then. He finally said, "This is my father's village, his house is in the middle of it, there I am taking you." When they came to the entrance of the house he said, "Father, I am bringing home a wife." The chief arose and welcomed them, called together his people and gave a feast in honor of the couple.

For awhile the princess lived contentedly with her husband's people, but later she began to see many strange things. Men came in from fishing with wet coats, and as they shook them in front of the fire to dry them, the drops of water would blaze up

in the most extraordinary way. All this was puzzling to her. She longed to find out what it all meant, so she asked her husband if she could go with him on his next trip to the fishing camp. At first he would not let her go, as she was not used to doing rough work. She insisted and he finally gave his consent; so she went along.

At the camp, while the men fished the women got wood for the fires. The girl gathered the driest wood she could find. The other women, she noticed, were gathering water-soaked logs and sticks. After making a large pile she made her fire in the way she knew her people made it. It was burning nicely until her husband came from fishing. As he shook his big wet coat by the fire the drops of water put it right out. The girl was ashamed of not knowing how to do her part, and was even more so when she saw how the other women's fires blazed up when their husbands shook their coats by it. Her humiliation was more than she could bear. She knew now that there was some mystery about the people among whom she was thrown.

The day's fishing done, all went home. That night the girl thought of all that had happened and had a troubled sleep. In the middle of the night she awoke with a shock. What monster is this in the place of her husband? a large grizzly bear! The monster felt her start and awoke with a low "ah" and with that he turned into the form of the man she knew as her husband.

It all came to her now: she was among the bear people; the lights and blazing up of wet logs were phosphorus; this bear had taken her for revenge because she had abused the bears when she slipped in the tracks. She wanted to run away, but she could not do it. She had been there nearly three years and had two sons. A longing for home came over her and she felt miserable. But while in this mood she felt her mind change and was her former self again. The bear had power over her.

In the meantime her parents and brothers gave up all hope of finding her and mourned for her death according to the custom among the Tlingits.

It was early in the spring of the year that their sister discovered her situation. It happened at the same time that the brothers went hunting in a direction they had never taken since their sister's disappearance. They knew that there would be plenty to kill there as the place had not been hunted. Their hunting led them towards the place where their sister lived with the bear people.

In the bears' dens—which looked like houses to the girl—there was a general preparation of going away to the summer camps,—spring coming on, the bears were getting ready to come out.

One morning the girl's husband all of a sudden was startled, straining his ears as if he heard something at a distance; then he looked confused; then he began taking his spears down from the wall and sharpening them (it looked so to the girl, but the bear was grinding his teeth), for well did he know that hunters were near.



FIG. 83.—Painted screens and houseposts.

All at once they heard a dog barking outside; the bear jumped up and rushed out; he caught the dog and threw it in; the girl recognized it as her brothers' dog. She was quick to think; called to her husband and said, "Do not fight, they are your brothers-in-law." The bear drew back and waited for the hunters to come up, then went forward and gave up his life, for he knew he was in the wrong by taking away the princess.



FIG. 84.—Louis Shonridge (Situwika) in his native costume (ceremonial).

After a few minutes the girl heard voices; she came out and saw the bear lying on the snow with arrows in its side and men, who were her brothers, just about to cut it. She spoke and said, "Do not take the bear, he was your brother-in-law." They looked at her, as may be imagined, with surprise, sorrow, and gladness—surprised to see her in that place; sorry for the life she went through, and glad to find her. In a few words she told her strange life. She had never noticed her appearance until after speaking to her brothers: her dress was ragged and worn up to her knees, a pitiful sight to see. The men buried the bear, and took their sister home, leaving her two sons, for they were cubs with half human faces, one of whom was "Kats." This name is still used.

Through this woman the Kagwantans claim the grizzly bear as their crest, emblem of strength and high rank. It is always the principal figure on their totems.

In Fig. 83 are shown the screens and house posts belonging to one of the family houses of the Chief Family of the Kagwantans, whose crests and emblems or totems are elaborately displayed on these screens and house posts in carving and painting. On the large screen *e* is displayed the Grizzly Bear. On the smaller screen *b* is displayed the Killer Whale, whose presence is explained on page 94. On the house post *a* is seen Lgayak, on the second house post *c* is displayed the Two-headed Bear, on the third house post *d* is displayed the Wolf and Pups, and on the fourth house post *f* is displayed the Bear and Cubs.

The emblems on the houseposts are derived from the mythical narrative, *Lgayak*, preserved in the mythology of the Kagwantans. Lgayak is the name of the younger of seven brothers, whose deeds are related in this myth. He was the hero of the story and through his prowess he and his brothers were able to conquer the enemies of mankind. They destroyed the beings that were to have been the foes of men. One of the strongest of all the monsters that they fought was the Double-headed Bear, whose image is carved on one of the posts.

LOUIS AND FLORENCE SHOTRIDGE.

THE MUSEUM JOURNAL.

TRIBE.	SIDES.	CLANS.	HOUSES.	HOUSE EMBLEMS OR CLAN TOTEMS.
Tlingit (of Chilkat)	Eagle	Ka-wá-gá-i-hít-dan	<ol style="list-style-type: none"> 1. Hwa-s-hít 2. Keet-hít 3. Hle-goo-shi-hít 4. Goo-w-hít 5. Gooch-hít 6. Teflak-koo-de-hít 	<ol style="list-style-type: none"> 1. Grizzly Bear. 2. Killer Whale. 3. Murrelet. 4. Wolf. 5. Eagle.
		Dak-dá-wu-sí-dak-i-ná	<ol style="list-style-type: none"> 1. Shi-tz-ló-hít 2. Hat-hít 3. Cha-wa-hlu-kw-hít 4. Gooch-hít 	<ol style="list-style-type: none"> 1. Eagle. 2. The Spirit of Teth-ko River.
		Dak-clá-wu-yá-dé	<ol style="list-style-type: none"> 1. Kut-goo-hít 2. Keet-goo-she-hít 3. Keet-to-fuk-s-hít 	Shark.
Raven		Gá-nah-at-dé	<ol style="list-style-type: none"> 1. Yá-yi-hít 2. Yól-hít 3. Koo-tis-hít 4. Gák-hít 5. Koo-sh-da-hít 6. Glee-ki-hít 7. Heeteh-i-hít 	<ol style="list-style-type: none"> 1. Whale. 2. Raven. 3. Kosh-dah-woo-si-see-ye-ka-chumun spirit turned into land-sifter. 4. Monster Worm. 5. Frog.
		Hu-kah-a-dé	<ol style="list-style-type: none"> 1. Shaw-hít 	Crow.
		Nee-sha-lá-a-ye	<ol style="list-style-type: none"> 1. New-sha-ka-hít 	Above-the-fort-house.

SOCIAL ORGANIZATION OF THE CHILKAT.

THE LIFE OF A CHILKAT INDIAN GIRL

WITH the Chilkats, as with all the peoples of Southeastern Alaska, the training of a child was not a difficult problem.

The Indians considered it a natural thing for a child to do what it was told to do. This natural system was the only one employed. In the majority of cases, however, a boy was given to his uncle to bring up. It was believed that if a boy were brought up at home where he is apt to be petted and spoiled more than is good for him, he would not make a strong man. So just as soon as he became a youth he was taken by his uncle to be trained by him.

Besides helping with the daily duties of the home, little boys and girls were given careful oral instructions along their individual lines on morals, on religion, on social and other matters. One important thing against which they were daily cautioned was a too free use of the tongue. With girls, this habit was entirely forbidden.

A young woman reserved in manners, neat in her work and appearance, not talkative or indulging in too much laughter, was said to be well bred and was respected accordingly. So while the girl was yet quite young the mother taught her quietness; even her cries were repressed. If a child exhibited rough manners, she was rebuked by her elder thus: "Are you a boy, that you should be rough?" Sometimes, to make a stronger impression on her mind, she was led to believe that she would meet with severe corporeal punishment from her big brother or her uncle, never from her father. Such punishments as she was promised however, were very rarely inflicted. Little girls were told to play quietly with their dolls; if they made more noise than was necessary their playthings were taken from them as punishment. Besides play, hand work of a simple form was taught them. During the food-preparing seasons they were taken along and allowed to put up what they wanted in little packets for their own special use; and in the winter-time some of these a child would give to an aged relative. I remember how proud I used to be to give to an aged aunt foods that I had prepared. If a child wanted to earn something she would give part of her stores to a brother or uncle, who would pay twice the value for encouragement.

Thus, beginning at an early age, a child was given an outline of what she was to go through later.

Arriving at puberty, the Indian girl is obliged to cast off every-

thing pertaining to childhood, and become more reserved in manner, as is befitting her years. She is taken in hand by her mother—if motherless, by the nearest female relative—and put under special training for a period of from four to twelve months, the difference of time depending upon the parents' social circumstances. This is considered the most important period in a girl's life, as much of her future welfare depends upon how she is taken care of at this time.

A small room near the parents' sleeping place is provided for her and her attendant. There are two entrances, one opening into the house, the other to outside; the former is used for girls and women visitors, the latter for going out into the open.

The very first thing that a girl does upon entering is to fast for as many days as was agreed upon by her relatives—the usual number is four—drinking water only, towards evening. During her fast, the first instruction is given her on how to accustom herself to the life she is to go through. After this come the many complicated rules which for an inexperienced girl are rather difficult to understand, but are given to her on appropriate occasions. Her food is carefully selected and prepared. Special attention is given to her manners at all times. In drinking water, a bone tube is supplied her through which to sip it. On receiving a visitor, she may smile but not be the first to speak. Personal care is necessary, and that she must learn. Neatness in everything is practiced. Her experience in handwork when a child helps her to become proficient at this time. After she has acquired neatness in everything, she is given some important thing to make, such as a ceremonial costume for a famed dancer, or something for a person holding a high office; this is to have her understand what it is to do things for the public.

On "coming out", an expression which has a literal significance in the case of the Chilkat girl at this period when she emerges from her seclusion to enter upon the period of womanhood, a cape with hood attached and long fringe sewed to the front of the hood is made for her out of fine skins; this she wears—the fringe covering her face—for a number of days, or until she is used to the public.

As there were no written rules that could be read, studied and memorized, signs and devices of many kinds were made to aid the girl to keep in mind the instructions, and by constantly applying them and referring to them helped her to make the teaching part of herself.

A girl who goes through this training can, when entrusted with anything, whether great or small, be relied upon to see to it properly. She is strongly impressed with the idea that it would be a disgrace if she made a failure.

It is not, as sometimes stated, the general belief of my people that a pubescent girl's glance will destroy things and turn one substance into another. These sayings were taken from the myths; the Indians use them when called upon to discuss this subject in public. The main reason for emphasizing these observances was to cause the girl's mind to easily grasp and retain the teachings given to her on attaining womanhood.

After the arrival of the missionaries many people became Christians, while others preferred to keep to the old-fashioned beliefs and ways of living. With the conversion, the ancient customs faded away. Until a few years ago the custom of seclusion of young girls for a prescribed period just prior to entering upon the life of womanhood was strictly observed. It may be doubted whether the missionaries understood its real significance when they opposed the practice. In any case it may now be regarded as practically a thing of the past.

FLORENCE SHOTRIDGE.



FIG. 85.—Model of the central part of the Chilkat village at Klokwan, Alaska.

AN INDIAN SHRINE



FIG. 86.—The Indian shrine.

AN Hidatsa shrine has been added to the Heye Collection. It represents one of the most interesting phases of the religious ceremonial life of the Plains Indians and adds materially to the large collection of ceremonial objects in the Museum.

The Hidatsa form a Siouan tribe whose largest village is situated at Point Independence, Fort Berthold Reservation, North Dakota. They are now officially known

as Gros Ventres, a name applied also to the Atsina, a detached tribe of the Arapaho. The typical dwelling of these people in the earlier days was the earth lodge. But seven of these lodges remained in 1908 at Fort Berthold, whereas in 1872 seventy-eight were occupied by the Arickara, Hidatsa and Mandan at this agency; but even then there were ninety-seven log cabins occupied by Indians.

The shrine was in one of these old earth lodges and was procured for the Heye Collection by Rev. Gilbert L. Wilson. It was obtained from Wolf Chief, who inherited it from his father, Small Ankle, a prominent medicine man of the tribe.

The shrine proper consisted of a framework of four posts thrust into the ground and two platforms, a lower and an upper one. The earth lodge in which it was installed is about forty feet in diameter. The shrine stood in the rear, back of the fireplace, close to the sloping roof.

On the upper platform



FIG. 87.—The earth lodge in which the shrine stood.

there is a medicine bundle composed of a parfleche bag containing two human skulls and a large wooden pipe. It rests on a layer of mint which covers a pad made of strips of calico. The lower platform contains a buffalo skull with eagle-feather attachment; a turtle shell, such as was used by the first Eagle-man in divinations to bring rain; an eagle-wing fan, and a felt hat, the latter an offering made years ago by a young Indian. These articles constitute the shrine and the sacred things. Besides these, however, there are two made of buffalo calf skins and a number of strips of calico which are offerings made from time to time in honor of the spirits of the shrine.

In the "Myth of the Medicine-skulls" as told by Wolf Chief the skulls are those of the original Eagle-men. Formerly they were eagles but, wishing to help the Indians, they chose each a human mother and as babes were born into the tribes of their naming, one of them becoming an Hidatsa. When the latter was old enough to fight he led the Hidatsa against their enemies who were fighting under the leadership of the other Eagle-man. The Hidatsa triumphed and their Eagle-man cut off the head of his former friend and, removing the lower part of the skull, used the major part as a receptacle in which to prepare his medicine. When he became an old man he longed to join his friend. He told his people that he would leave them and instructed them concerning the preparation of his skull. He said, "When I am dead I want you to take my skull, take out the brains, wrap the skull neatly in a skin, and keep it hanging beside the skull of my friend in a place of honor. Now I die here, but before I die I make you a promise. My skull and my friend's skull shall be the medicine of my band." Thus it is that the Hidatsa have looked upon these skulls as most potent medicine.

The medicine pipe was used in connection with the skulls. In explaining the shrine objects Wolf Chief said: "Now these are the mysteries which the keeper shall perform before the skulls for the members of the band. If enemies shall come against you let the keeper take my medicine pipe and roll it on the ground toward them, singing the while this holy song which I now teach you. If he will do this, the enemy will be overcome and will flee." The pipe was also used in ceremonies for calling the buffalo herds to the vicinity of the village.

The buffalo-skull played an important part. "When the people starved and brought presents to the Eagle-man to induce him to

bring buffalo, he would take down the buffalo-skull, place it before the shrine, sing a mystery song, and then lay the pipe before the nose of the skull." This ceremony in connection with others was usually effective.

The turtle shell that lies on the lower platform of the shrine is medicine and the eagle-wing fan was used in the Hidatsa rain ceremonies. The Hidatsa believed in the thunder birds, which brought rain; their scream or the roaring of their wings was thunder, and the flashing of their eyes the lightning. It will be noted that most of the shrine objects have to do with rain—mint grows in wet places, and the turtle lives in the water. The eagle-wing represents the original Eagle-men, who, although not definitely so stated, were doubtless thunder birds. The skulls are those of the original Eagle-men. The buffalo-skull was used in prayers for the appearance of the buffalo herds. It will thus be seen that, with the exception of its use with the medicine pipe for driving away enemies, and in the treatment of the sick, the shrine is a food-and-drink shrine, and was thus principally used. Rain was prayed for to save the growing crops and the herds were prayed for that the tribe might have meat.

The medicine bag supported by the cedar post, at the left of the shrine, contains three classes of medicines and sacred objects. The first belongs to the Bear Group and pertains to eagle hunting; the second to the Wolf Group and pertains to war, and the third is composed of personal medicines only. There is a myth pertaining to each group which describes the uses of the various objects and how they were obtained.

The shrine with the information concerning its use, as obtained by Mr. Wilson, presents a most valuable addition to our knowledge of the primitive rites and ceremonies of the American Indian.

GEO. H. PEPPER.

A VISIT TO THE OTOE INDIANS

ALTHOUGH well known as an offshoot of the great Siouan stock, and as similar in dialect and habits to the Iowas and Winnebagos, the Otoe Indians have been little visited by anthropologists, and but few specimens illustrating their arts and customs have ever found their way into museums.

In December, 1912, I had the good fortune to visit the Otoes in the interests of the University Museum. As in the case of my previous Oklahoma expeditions the expense of the work was borne by Mr. George G. Heye. I found the Otoes living in fairly comfortable frame houses scattered about over the prairie and along the bottoms, each on his own allotment, from the vicinity of Redrock, Oklahoma, eastward toward the Arkansas River and northward toward the little town of Bliss and the pasture lands of the great 101 Ranch.

As I drove toward the Agency the outward prospects did not look very bright, for I could see nothing whatever to suggest the old Indian life. The Indians I met were all attired in everyday citizens' garb. In fact, one of the first Indians I saw was the athlete, Thorpe, who happened to be visiting friends among the Otoes.

At the Agency itself I did not receive much encouragement. Although I was received with courtesy, I was assured that almost nothing had been seen for a long time of the old Indian work. Even the interpreter was not at all sanguine. He thought I might pick up a few moccasins and wooden bowls; but as for sacred bundles he was convinced that the few that remained in the hands of those who still believed in them could hardly be obtained.

But the results surprised everybody, even myself, for during my brief visit I was able to secure more fine specimens illustrating the arts and customs of the people than I ever had done before in a similar period of time. Among the more unusual things were a number of fine otter skin pouches used in the Medicine Dance, some of them beautifully decorated with porcupine quills; an unusually fine ancient peace pipe; some good feathered calumets; a buffalo robe bearing quaint, faded paintings to commemorate someone's exploits in war; a scraper with elk-horn handle upon which had been laboriously carved the pictographic record of a foray against the Cheyennes; a magic war club, one of the finest I ever saw, bearing the carved figure

of an otter, the original owner's familiar spirit or helper; twenty-four sacred bundles; and, rarest of all, a buffalo-skull shrine.

Of the bundles, nine were large clan war bundles, one of them containing a tattooing outfit; two tattooing bundles, the best of which belonged to the Missouri tribe, now amalgamated with the Otoes; five war bundles belonging to the Red Medicine Society; seven bundles used by the Buffalo Doctors Society; and one hunting bundle.

Like the war bundles of the Iowas and many other tribes previously visited by the Museum expeditions, the large Otoe war



FIG. 28.—Otoe Indian war-bundle, with sacred flutes, carved ear club and gourd rattles.

bundles contain curious assortments of magic amulets and medicines for protecting the warrior and bewitching his enemy.

Tribal tradition relates that the bundles were given to the Otoes by Wakanda, the Great Mystery, himself. "In a vision the bundle was given," says the legend, "a vision which lasted four days and four nights. Wakanda talked with the man who made the first bundle, and told just how it should be made, and the meaning of each thing within it."

Only because they felt they could no longer care for them properly, and realized that the Museum could and would preserve them,



FIG. 89.—Otoe Indian medicine bag of otter skin showing porcupine quill rosette.

were the Indians willing to let such sacred objects go. Said one old man, "While these bundles were in my house it seemed as if the old people were still with me in spirit, the forefathers who made them. But now they are gone. The dreams of men long dead lie wrapped within those covers."

As to the contents, some of the Otoe war bundles bear a closer resemblance to those of their distant cousins, the Osages and Kaws, than those of their closer kinsmen, the Iowas. This is well brought out in a bundle belonging to the Bear clan, which contained among



FIG. 90.—Woven sack in which tattooing outfit was kept, showing figures of Thunderbirds. Made by Missourian Indians.

many other things a fetish, the dried skin of a hawk attached to a deer-skin strap to sling about the neck. To the hawk's tail were tied pieces of nineteen scalps, each one of which represents a successful war expedition. The hawk fetish was supposed to protect the entire war party and to endow them with the bird's predatory powers. This, together with a weasel skin amulet carried by scouts to give quickness and ease of concealment, and an eagle foot, used as a magic wand to symbolically claw at the enemy to get them within one's power—into the claws of the eagle, as it were—all find their counterparts in the bundles of the Osages and Kaws. The bundle

also yielded an enchanted sash to wear across the shoulder, a bird-skin amulet to tie upon the wearer's scalp-lock, a magic whistle, blown to hypnotize the enemy, a buckskin sack containing herbs which, chewed and rubbed on the body, were supposed to act as a charm for turning away bullets and arrows, and another packet containing a herb mixture for poisoning one's own missiles against the foe.

Anyone having much to do with war bundles soon gets accustomed to seeing and handling scalps, but I confess it gave me an



FIG. 91.—Tattooing outfit used by Missouri Indians showing spatulas of buffalo horn, needles mounted on handles, charcoal used as pigment, and cane tube used as a stump.

uncanny sensation to find dried human forefingers in two of the Otoe sacred bundles. These had been cut off at the second joint, but had been left attached to part of the skin which had been carefully stripped off from the hand and arm so as to form a band, by which the finger could be suspended from the neck. One touch of the dead finger, the Indians said, would revive a fainting man, or one knocked unconscious or crazed by a blow.

The bundle of the Wolf clan contained one of these fingers, with part of a scalp fastened to the carrying-band of human skin,

a large buckskin doll representing an enemy in the power of the owner of the bundle, a stone ball representing lightning and giving lightning power, four hawk-skin amulets, an eagle feather dyed red to symbolize blood, together with a headdress of deer hair, two magic weasel skins, a ground-squirrel skin, a remarkable old porcupine quill necklace bearing a quilled sack for war medicine, a buffalo-hair necklace with two sacks for war-paint, a war whistle decorated with quills, a lot of magic herbs, a buffalo-hide sack containing paint bags and sweet grass used as incense, and finally a few scraps of dried meat.

One of the best things was tied on the outside of this bundle, a fine old war club, symbolizing the power of the thunderbolt, upon which were scratched the rude outlines of a man and an antelope connected by a line supposed to represent the magic power flowing



FIG. 92.—Buffalo skull shrine of the Ojib Indians.

into the owner of the bundle from his familiar or guardian spirit, the antelope. On the outside of the bundle were also fastened a war whistle, a gourd rattle used in the bundle ceremonies, and a tube of cane for blowing the ceremonial fire.

Many of the other bundles contained articles of unusual interest, including fine old porcupine quill work, especially valuable because the art of embroidery with porcupine quills has long been lost among the Otoes.

Both of the tattoo bundles contained the tools and pigments for making the indelible designs in blue seen upon the faces and hands of Otoe men and women—designs regarded as sacred marks of honor. As in the Iowa and Osage tattoo bundles the wooden handles bearing at one end the needles used for pushing the coloring matter into the

skin, are tipped at the other end with bunches of rattles made of heron quills. A unique feature was seen in the Missouri tatoo bundle—several spatulas of buffalo horn for rubbing in the pigment.

The buffalo-skull shrine obtained on this trip consists merely of a slab of stone slightly hollowed out on top to form a rude platter, and containing cedar leaves upon which rests a buffalo skull, the right horn and eye socket painted red, the left black, while between them runs a double stripe of the same colors. Horns, eye sockets and stripe are also outlined in appropriate paints upon the stone slab beneath. It was kept in the owner's house, facing east, except for four days in the spring and four in the fall when it was taken out



FIG. 93.—Record of war-exploits engraved on the elk-antler handle of a skin scimper. The Ojib Indian who made the implement presented it to his daughter as a lasting memento of his warlike fame. The rude carvings represent five Cheyenne Indians killed by his hand, of whom three were beheaded and one scalped.

to figure in a great thanksgiving ceremony and dance. The story of this shrine sheds much light on the origin of many Indian ceremonies. About the year 1884, Bill Fawfaw, the Indian from whom the shrine was purchased, had a dream or vision while mourning, in which a spirit buffalo and other spirits appeared to him and told him how the ceremony should take place. Immediately he called the tribe together and related his vision, with the result that the ceremony was enacted as he described it, and was repeated twice a year thereafter until recently. The ceremony was also introduced among the Iowas, Kaws and Osages, where it flourished exceedingly for a time.

M. R. HARRINGTON.

NOTES.

Mr. Louis Shotridge, who with his wife contributes the leading article to this number of the JOURNAL, has been in the employ of the Museum since May, 1912. The drawings with which he has illustrated his article on house construction in the pages of the JOURNAL are the first drawings of the kind he has ever made, never having received any instruction. Likewise, the model of his native village, of which a photograph is shown on page 103, is his first attempt at a work of this kind. It was in 1905 that the Director of the Museum met Mr. Shotridge, then a youth of twenty-two years, during a trip which he made that year to Alaska. Again in 1907, while on his way to northern Alaska, he was met by Mr. Shotridge on the coast at the mouth of the Chilkat River. At that time the Director made a trip up the Chilkat River to Kluckwan, Mr. Shotridge's native village. He found that the aboriginal architecture of the natives was fast disappearing by the decay of the old family houses and the innovation of the white man's methods. With the idea of preserving a faithful record of the native architecture of the region, he was anxious to have a model prepared in which the buildings would correspond with the older houses which still survived in Kluckwan. The model which has now been prepared by Mr. Shotridge reproduces several of the principal houses of that village. In the construction of these houses, each part and the method of joining, as well as the furnishing, corresponds in detail with the originals.

In addition to the model and drawings, Mr. Shotridge has prepared for the records of the Museum a full description of the method of preparing the several timbers and individual parts for the Chilkat house, together with the native designation of each member.

Although Mr. Shotridge has learned to employ the phonetic system which has been devised and approved by the most experienced investigators for recording native languages, it is not employed in the writing of Chilkat words which occur in the article now published. To write native words in unfamiliar characters repels the eye of all but the student familiar with the system employed. In writing the native words, therefore, the twenty-six letters of our alphabet are employed in such combinations as will give the nearest approach they are capable of giving to the phonetics of the Tlingit language.

The Museum has recently purchased a collection of fourteen antique Chinese bronzes, of which two are Buddhist images and the others are bronze vases decorated for the most part by impressed designs. Most of the pieces date from the early Ming Dynasty.

The collections in the Babylonian Section of the Museum have recently been enriched by the purchase of a tablet containing a portion of the famous Gilgamesh epic, dating from the time of the first dynasty of Babylon, about 2100 B. C. The tablet is evidently one of the series of twelve, which contained the entire epic.

Mr. Otto Hanson, who has been engaged during the past year in making an ethnological collection among the Bogobos in Southern Mindanao in the Philippines, has returned to Davao, according to the brief advices that have been received. Full reports of the expedition are expected shortly from Mr. Hanson.

Mr. Robert Burkitt, who has been engaged to make ethnological studies in Central America and to make a general archaeological survey, is at present pursuing his studies in the highlands of Guatemala.

The following objects presented to Mr. Burkitt for the Museum by residents in the Alta Vera Paz are acknowledged with thanks:

A narrow-necked jar, fragment of a tablet and fragment of a vessel presented by Mr. Otto Schwarzwälder.

A pear-shaped vase presented by Mr. Charles Mazariegos.

Pottery objects and fragments presented Mr. Paul Mittelstaedt.

A cylindrical jar presented by Mr. John Tafel.

Three vases presented by Messrs. Kenneth Champney and Co.

Pottery fragments presented by Mr. Joseph Sauter.

Pottery fragment with relief presented by Mr. John Trautmann.

Pottery fragments presented by Mr. H. R. Dieseldorff.

Human head modeled in clay, presented by Mrs. R. Hempstead.

Pottery fragments presented by Mrs. Augustus Dieseldorff.

Terra-cotta whistle and water jar presented by Miss Dieseldorff.

Pottery fragment presented by Mr. Salvador Oliva.

The latest news from the Amazon Expedition has been received through a letter from Dr. Farabee, written on August 3d at Caracari at the head of navigation on the Rio Branco. The expedition having proceeded this far without mishap, was preparing to push on to the headwaters of the Rio Branco, where the first observations will be made on the native tribes of Northern Brazil.

Owing to the building operations now in progress, the rear portion of Pepper Hall, occupying the central part of both floors, has been partitioned off for the workmen employed in making the alterations and connections with the new wing. The exhibits have been withdrawn from both of these sections. Some of these exhibitions have been installed in other halls by condensing the exhibits already there. Of necessity, some of the pieces have been withdrawn temporarily from exhibition.

Stephen Langdon, Esq., A.M., of Jesus College, Oxford, has been granted permission to work upon the cuneiform texts in the Babylonian Section of the Museum. Mr. Langdon has accordingly undertaken to copy and prepare translations of a number of religious documents from the Nippur collections. These copies, with their translations, when complete, will form a volume in the publications of the Babylonian Section.

A large case containing the Cretan collections from the last excavations at Vrokastro, held for some months at Piræus on account of the war, has now been safely received in the Museum.

The lecture course for the coming season is in preparation. The subjects chosen will, as in former years, have special reference to the history of the human race, and already several lecturers of distinction have been engaged. The course will begin on November 1st and in the meantime a preliminary program will be distributed to members of the Museum on October 20th.

The following new members have been elected to the Museum: Fellowship Members: Samuel T. Bodine, B. Talbot B. Hyde, Edward C. Dale. Annual Members: J. W. Hamer, Otto T. Mallery.

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THE GRÆCO-ROMAN SECTION

THE progress made by the Museum in 1913 includes no more important step than the development and scientific treatment of the collections in the Græco-Roman Section. These collections were augmented by purchases of Roman glass, a Neo-Attic marble relief and a Roman portrait head in marble. Another relief, of Imperial Roman type, purchased in 1908, has been placed on exhibition for the first time. The sculptures acquired at an earlier period, most of which were presented by the late Mrs. Lucy Wharton Drexel, were cleaned, the modern restorations removed and the best pieces exhibited under such favorable conditions as to give each piece as far as possible the effect intended by the sculptor.

Progress has also been made in the cleaning and putting in order the Greek vases, from many of which modern restorations have been removed. These restorations have proceeded sometimes from unskillful collectors and sometimes from too skillful dealers. In either case they are obnoxious from an artistic as well as from a scientific point of view, sometimes leading the best informed scholars into error.

A large box of fragments of Attic vases which had been in the storage rooms of the Museum since 1898 were, during the summer of 1913, carefully put together, forming a number of vases of varying degrees of completeness. When it was necessary to restore missing parts of these vases in order to hold the existing parts together such restorations were done in a different colored material and without any attempt at reproducing the surface or the decorations. In this way any one can tell at a glance what parts are original and what are due to the requirements of proper mending.

A special exhibition has been arranged which includes the objects referred to in the preceding paragraphs. Dr. Edith H. Hall, the Assistant Curator of the Græco-Roman Section, describes in this number of the JOURNAL some of the principal features of the



FIG. 94.—Iridescent glass goblet.

exhibition, as well as one statue (Fig. 139) not included in the exhibits of the section as now arranged. The Neo-Attic relief and the portrait head have been purchased so recently that they were not received in time to be described in this number of the JOURNAL.

A COLLECTION OF ANTIQUE GLASS

The process of making glass was invented, according to Pliny, in the following manner. "That part of Syria which borders on Judæa, and is called Phœnicia, has at the foot of Mt. Carmel a swamp named Cendevia. Here rises the river Belus which, after a course of five miles, empties into the sea near the colony,



FIG. 95.—Iridescent moulded bottle.

Ptolemais. This river runs but slowly and unwholesome is its water, though used in many sacred ceremonies. Its bed is muddy and deep. . . . At ebb tide there is left here a very clear and bright sand which extends as far as 300 paces. Now there arrived at this place one time certain merchants in a ship laden with nitre, and being minded to cook their dinner on the shore and finding no stones close at hand they made shift to sup-

port their kettle with blocks of saltpetre from their ship. After the fire was made they noticed, mixed with the sand beneath the pot, a very bright and clear stream, and this was the beginning of glass." By us of a scientific generation this story may be readily dismissed as a fabrication devised for the purpose of explaining the facts of glass manufacture, but by the ancients it was believed and the Phœnicians were accredited by them with the invention of glass. At the hands of modern archaeologists, the Phœnicians are being stripped of much of their former prestige and among the



FIG. 96.—Variegated glass of primitive technique.

losses they have sustained must be reckoned that of the credit of this invention, for it has now been shown that it was Egyptians who first made glass, and that the invention dates from so remote a period as the fourth millennium B.C., when glazed beads and other glazed objects were first manufactured.

For many years the east coast of the Mediterranean knew glass only as a costly import. The word occurs but once in the Old Testament, in Job 28: 17: "The gold and the glass cannot equal it, and the exchange of it shall not be for jewels of fine gold,"

a passage which implies, of course, its great value. Not long after the time of Job, glass factories had been established at Sidon the products of which were much prized by the Romans. To this manufacture the invention of glass-blowing in the early imperial period gave new impetus. Not only in Phœnicia, but also in Syria and Judæa the industry assumed large proportions. Jewish glass, *vitrum Judaicum*, was famous even in the Middle Ages; indeed, Harriet Martineau in the last century saw glass-makers at work at Hebron, and their products selling in the Palestine markets.

But it was in the Roman period that the industry was at its height. The collector of Roman glass, therefore, finds in the eastern littoral of the Mediterranean nearly every category of glass known to the ancients. Many shapes and types correspond entirely to



FIG. 97.—Moulded glass bowl.

those made in other Roman provinces, in France or the Rhine valley; others are peculiar to the east.

The Museum has acquired from Jerusalem two collections of glass, comprising 392 pieces and consisting mostly of vases. There are also a number of glass pendants, bracelets, intaglios, and necklaces. Some of the necklaces are of glass and some of carnelian, amethyst, rock-crystal, and agate. All were found in Palestine and Syria, and were taken from tombs mostly in the district between Jerusalem and Aleppo. The sites on which the tombs were found are in many instances familiar on account of their biblical associations: Hebron, Damascus, Nazareth, Moab, and Sharon.

Roman custom ordained that the dead should be equipped in their graves with all that had been of use in life. Vases filled with



A



B

FIG. 98.—A and B. Moulded vases.

milk and honey and wine were set beside them to satisfy their hunger during the long journey on which they had embarked. The child, moreover, had his toys; the woman her vases for toilet. In the imperial Roman period, in the eastern Mediterranean, vases of glass largely superseded vases of clay for these purposes. And naturally, for their cost was slight: in Nero's time a small-sized copper coin would buy a goblet of glass.

These ordinary specimens, bought for a penny in antiquity, sell now for fabulous prices if they chance to have acquired from their long contact with the soil a brilliantly iridescent surface. Such iridescence, unknown to the ancients, unsurpassed by the



FIG. 99.—Small mottled bottles.

beauties of modern glass, is due to a partial disintegration of the surface, which, after a sufficiently long lapse of time, may prove disastrous to the preservation of the specimen. Many vases with brilliant opalescent hues are included in the Museum's purchase, and will prove a source of delight to every lover of color.

The oldest class of vases represented in the collection are those of Fig. 96, usually known as "primitives." Made before the invention of the blowing-tube, they display an archaic technique which consisted of modeling the vase over a core. Decoration was achieved by laying threads of variously colored glass over the surface of the vase while it was still hot, and then rolling the whole upon a smooth stone until the threads were pressed in. Wave patterns were prob-

ably made with a comb-like instrument, to every tooth of which a thread of glass adhered, so that by moving the instrument in a curved course over the vase, a wave pattern with strictly parallel lines was secured. This technique first practiced in Egypt during the XVIII and XIX dynasties was continued until the invention of the blowing-tube not only in Egypt but also in other parts of the Mediterranean.

Another type well represented in the collection is that in which a mould was used. In the early stages of this technique, the glass



FIG. 100.—Moulded flask.

was poured into moulds; later it was forced in by the blowing-tube. Before it was entirely cool, the glass was removed from the moulds, each of which had the form of half a vase, and the two parts joined. This method was practiced in Phœnicia from the Hellenistic time, especially for the manufacture of small jugs known as Sidonian vases. They are frequently hexagonal in form and are often made of colored glass. In the Museum's collection is one of white opaque glass, one of dark blue, one of yellow and two of a rich wine color (Figs. 101-103). Among the moulded ornaments which decorate them are fruits

(grapes and pomegranates), birds, floral emblems, and Bacchic symbols, such as wine-jars, libation bowls, and crossed torches.

Another local fabric of moulded vases is that known as Jewish



FIG. 101.—Sidonian bottle.



FIG. 102.—Sidonian bottle.



FIG. 103.—Sidonian bottles.

glass. It dates from the fourth century A.D. Two good specimens of this class are included in the collection (Fig. 104 A); they are decorated, as is usual, with palm branches and various latticed patterns, indicating the temple-door.



A



B

FIG. 104--A, Jewish glass. B, Sionian bottles.



FIG. 105.—Bottles moulded in the form of dates.



FIG. 106.—Flask moulded in the form of a cluster of grapes.

To give variety of form to his products, the glass-worker sometimes fashioned his moulds in the likeness of fruits, shells, human heads, conventional shapes, and angular bottles (Figs. 105-109). A



FIG. 107.—Moulded vases.



FIG. 108.—Moulded vase.

fine specimen of the latter form in the collection contains remarkable mauve and violet coloring (Fig. 95).

Curious and varied as these moulded bases are, they are gen-

erally inferior as regards beauty of form to the plain blown vases, which retain oftentimes the delicacy and lightness of the bubble of glass from which they are made (Fig. 110). The colors of these, irrespective of the iridescent hues which are the work of time, are quite as rich as in the moulded vases, and often constitute in themselves ample decoration. Most beautiful of these colors are a deep cobalt blue, a wine or amethystine color, and a warm golden olive. To these vases photographs do, of course, no justice. Another interesting class of vases is that in which two colors are combined,



FIG. 109.—Moulded vase.

the body of the vase being of a pale blue and the handles and bands on the rims a deeper shade (Fig. 111 B). Again blown vases are often decorated with threads of glass applied plastically (Figs. 112-116). These were at first merely wound about the neck of the vase in imitation of the cord which fastened the sealing of the flask, but were afterwards applied in a variety of ways. In cases where these threads were of a different color from the rest of the vase, this decoration is extremely effective. Other methods of varying the surface of glass vessels were that of pinching the glass while it was still warm so that it has a knobby or spiked effect, and that of

holding a wooden instrument against the hubble of glass so as to impress it with grooves (Fig. 117).

According to the estimates of the German scholar Kisa, whose monumental work, *Das Glas im Altertume*, supplies all the facts obtainable about ancient glass, more than half of the antique glass vases preserved are flasks, and of these the majority are "tear-bottles," so-called because a legend ran that the women mourners



FIG. 110.—Glass ewer.

at funerals gathered in them their tears for the dead. The name is fanciful; in reality they contained balsam or other fragrant oils and doubtless served much the same purpose as do cologne bottles of the present day (Fig. 118). They were single, double, or quadruple and were ornamented with threads of colored glass and with high elaborate handles. They are frequent in the fourth century A. D. throughout the eastern Mediterranean, and are well represented in the Museum's collection.



A



B

FIG. 111—A, Bowl of blown glass. B, Vases in which two colors of glass are employed.

Glass beads, as we have already seen, were made in Egypt at a very remote period. Throughout Egyptian history they continued to be an important article of export; from India to the west coast of Africa have been found these products of Egyptian factories, which



FIG. 112.—Glass bottles ornamented with threads of glass imitating actual threads of sewing.

were carried first by Phœnician and later by Roman traders. Our collection includes several categories, pale blue glazed beads, beads made to imitate amber, and beads with colored patterns comparable to modern Venetian beads.

Pendants in the form of miniature vases are well represented in this collection as well as bracelets of glass the like of which are worn today by the unchanging inhabitants of the Nile valley.

Of the necklaces of beads included in this purchase Fig. 119, the carnelian, crystal, and amethyst beads are unconnected with glass except certain of the carnelian beads decorated with patterns



FIG. 113.—Glass vases ornamented with threads of glass in relief.

appliquéd in a very hard white enamel, which, if it does not enhance the lovely color of carnelian, at least bears witness to the skill of the ancients in enameling.

ANCIENT MOSAIC GLASS

Before the acquisition of the glass that has been described in the foregoing pages, the Museum was already in possession of a considerable number of specimens of ancient Roman glass, which

had been acquired from various sources. Of these specimens the majority were plain blown vases of usual types; others, however, displayed rarer techniques. The only pieces that need be described or illustrated here are some of the fragments of mosaic glass.

Mosaic glass dates chiefly from the first century A.D., and is found in Egypt, the Orient, Greece, and Italy. Our specimens are apparently from the latter source. They are all fragments of a class of bowls probably to be identified with the *vasa murrina* so admired by classical writers. If so, they are the vases which were first brought to Rome by Pompey after his victory over Mithridates and which some years later sold for as much as \$1,000 a piece.



FIG. 114.—Glass jar ornamental with threads of glass so called.

Indeed, if we are to believe Pliny's story, the consul Petronius, known for his zeal in collecting art objects, possessed one specimen for which he had paid 300,000 sesterces (\$10,000), and which he broke on his death-bed that it might not pass into Nero's hands. This story is doubtless exaggerated, especially as regards the price paid. In the same passage, however, Pliny goes on to relate how Nero caused the pieces to be gathered up and preserved, a statement more likely to be true and interesting for showing that fragments of vases were prized then as now.

The most famous of mosaic vases are the *millefiori* bowls, so called by the Venetians who valued them highly. They were manufactured as follows: threads of variously colored glass were com-

bined in different ways, so that by cutting cross sections through them a variety of patterns was produced. These patterns could be indefinitely varied either in size by drawing out the threads to different lengths, or in shape by cutting the rods made up from fused threads at different angles, into slanting as well as into perpendicular sections. These small sections, when cut, were laid in a terra-cotta mould, and combined either by heating so that they became fused directly one to another, or by blowing a bubble of translucent glass inside the vases so as to unite them. Pieces of *millefiori* bowls in which the sections of the fused rods were directly joined are shown in Fig. 120; fragments of bowls in which they are held combined by an interior coating of clear glass are shown in



FIG. 115.—Glass goblet ornamented with threads of glass in relief.

Fig. 121. The full beauty of this kind of glass is realized only when specimens are held up to the light; the small sections of the glass rod which extend from one side of the vase to the other are partly opaque and partly translucent, and the contrast in their transparency as well as the rich variety of their hues render their color unrivalled.

Another type of mosaic bowl was made by cutting the rods made up of fused threads into longitudinal sections. These were then laid in various patterns within the molds and fused by heating. Examples of this technique are shown in Fig. 122. The spiraliform bands and short cross lines of white which appear in some of these

fragments were produced by winding threads of white glass about the rod before the longitudinal sections were cut.

Still another method of combining threads of variously colored



FIG. 116.—Vases ornamented with threads of glass.



FIG. 117.—A, Grooved vase. B, Spiked vase.

glass is that represented by the onyx vases, fragments of which are shown in Fig. 123. In this technique the various threads, some opaque, some translucent, were laid one above another in irregular schemes and the whole mass then heated, picked up on the glass-

blower's tube and blown into the desired shape of vase. The grace and effectiveness of the pattern thus produced varied according to the skill of the workman, and also according to the various



FIG. 118.—Balsamaria or oil-flasks.

combinations of color. Some of these vases successfully imitate the effect of veined marbles and other variegated stones prized by the Romans.

The Museum possesses also one rare specimen of mosaic glass

the technique of which is even more elaborate than that of the foregoing fragments. This is the shallow bowl or saucer of Fig. 124. It was found at Chiusi and was acquired for the Museum through the generosity of Mrs. Phœbe Hearst. The specimen has been mended in several places and is not now quite complete; it measures a little less than seven inches in diameter. It is comprised of rectangular pieces, each of which represents a thin section of a bar of glass. Into this bar were fused three threads, one of brown, one of



FIG. 119.—Necklaces of glass and carnelian beads.

greenish blue, and one of colorless glass, and the whole, after it had been rendered rectangular in section, was dipped first into white opaque and then into clear glass. Thus the delicate white frames for the checkers were obtained. After the sections had been cut they were laid in a terra-cotta mould. So far the process does not differ materially from that observed before. But upon examination of the broken edge of our specimen it becomes apparent that the bowl is double, and that between the upper and lower layers of

mosaic intervenes a thin coating of gilt, which both lends its color to the colorless part of the pattern and enriches the blue and brown glass. Probably the lower covering of mosaic was first fused in the mould, the coating of gilt laid above it and lastly the second layer of mosaic. The bowl is more highly polished on the inside. The outside shows unmistakable traces of the wheel.

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FIG. 120.—Fragments of millefiori bowls.



FIG. 121.—Fragments of mosaic bowls.



FIG. 122.—Fragments of bowls of mosaic glass.



FIG. 123.—Fragments of onyx vases.

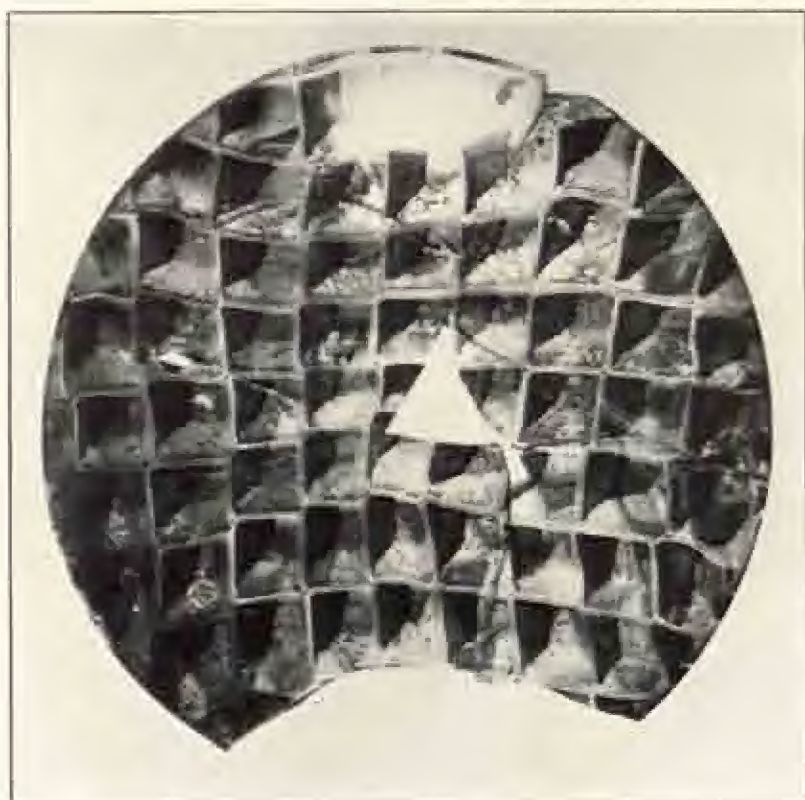


FIG. 124.—Bowl of mosaic glass.

A ROMAN RELIEF FROM POZZUOLI

In the last ten years an attempt has been made to reinstate Roman art in the proud place it occupied in the eighteenth century. Then before the Elgin marbles were brought to London or the Hermes of Praxiteles was unearthed, such statues as the Apollo Belvedere, such monuments as the column of Trajan were regarded as the masterpieces of antique art. During the nineteenth century, as the beauties of Attic art were revealed, the pendulum swung so far to the other extreme that archaeologists were prone to disregard Roman art entirely. The crudest archaic statue from Greek soil was prized more highly than the most magnificent monuments of Rome. Now, however, a reaction has set in; champions of Roman art have arisen who are claiming for the sculptures of the imperial period both originality and high artistic worth. The question of the justice of their claims involves some of the most interesting problems of sculpture, such as the relative merits of low and of high relief and the possibility or the advisability of representing in relief a scene in three dimensions, of indicating, that is to say, depth as well as length and breadth. In view of the current discussion of these problems, the acquisition of a Roman relief of the imperial period is peculiarly timely.

The relief (Fig. 125), which was purchased in 1908 at Pozzuoli by the Director was found the same year about 150 metres south-west of the amphitheatre by workmen engaged in laying the foundations for a modern house. The local proprietor stated that the workmen found in the course of their excavations many blocks of the Roman epoch as well as a road running east and west in the same direction as that of the modern road. Still deeper down was found a second road, again running east and west, and, along its northern margin, the fragments of this relief. These meagre facts in regard to the discovery of the marble, together with a brief description of the sculptured figures, were published by the Italian archaeologist Gabrici, in *Notizie degli scavi* for 1909, p. 212.

The relief is cut on a block of white coarse-grained marble which measures 1.60 by 1.14 metres and is 28 centimetres thick. The lateral margins of the block coincide not with those of the sculptured scene but with the margins of an inscription cut on the other face of the slab, and surrounded by a moulded frame (Fig. 126). This inscription has been carefully chiseled away, but underneath

the marks of the chisel may still be traced many strokes of the original letters, so there is a good chance that the inscription may eventually be read at least in part. The first line seems to have con-



FIG. 125.—Roman relief from Pozzuoli.

tained only the words IMP CAESARI which points to the inscription having been set up in honor of an emperor. The next lines which contained the name of the emperor or other person honored

by the decree, have been expunged with particular care. The word PUTEOLANA which is apparent in the line fourth from the end indicates probably that it was the citizens of the town who erected the decree. Not only is the sculptured scene incomplete, but the lateral faces are dressed as if to be attached to other blocks. One of these faces moreover has a hole for a clamp. The upper and lower edges of the block also show holes for dowels, so that an architectural coping must be supposed above and a foundation course below. Apparently the slab came from a balustrade, one face of which was sculptured, the other inscribed.

It is possible to suppose, however, that the inscription and the sculpture are of different dates. That the inscription should be earlier looks unlikely in view of the thickness of the block of stone on which it is cut. More plausible is the supposition that the inscription is of later date than the sculptured slab and that he who erected the inscribed decree made use of a block already used before in a sculptured monument. In such case he either used a sculptured block of the shape and size that came to hand or he cut from the sculptured frieze a block to suit his purposes. According to the former of these suppositions, the sculptor who carved the frieze chose to have the joints of his blocks fall within the field of the sculptured figures. But this is improbable; the moulded frame which separates the two panels would have been the natural place for the joints to come had not the arrangement of the blocks been determined by the needs of the inscription on the other face. According to the alternative supposition, the careful dressing of the lateral surfaces of the block remains without an explanation. One of these surfaces where the relief is lower has received what in Greek architecture is called *anathyrosis*, a treatment designed to produce a very close joint on the sculptured surface of the slab. On the whole, therefore, it seems more satisfactory to suppose the inscription and the sculptured scene to be of one date and to have adorned the two faces of a balustrade.

In turning to the sculptured figures, the difference in the height of the relief is at once noticeable. The figure on the right projects considerably further from the background than do either of the figures in the panel on the left. It is noteworthy also that the frame which surrounds the panel on the right is much deeper than that on the left unless we are to believe that the frame of the latter panel was applied instead of being cut from the stone itself.

A similar variation of technique may be noted of the mouldings of the inscribed face.

In both panels are represented Roman soldiers. Those on the left are walking toward their right, their gaze seemingly directed toward some object or personage ahead of them. By two devices



FIG. 126.—Expunged inscription on reverse of sculptured slab from Pozzuoli.

the sculptor has attempted to throw into the background the second of these figures: first by carving it in very low relief and secondly by making a spear, now broken away, which the other soldier carries, fall directly across the field occupied by this figure. This spear was almost entirely undercut so that it cast a strong shadow on the figure behind. Neither of these devices has met with the

entire approval of the more sober critics, for in the first place it is doubtful if the effect of distance is really achieved by such simple expedients and in the second place it is by no means certain that it is an advantage to represent distance in relief. Another noteworthy point about the technique of this panel is that the sculptor was evidently embarrassed by the difficulties of rendering a three-quarters view in low relief. Although the body is represented in three-quarters view, the feet and head are both shown strictly in profile. The figure in high relief in the other panel is represented full face and appears to be walking out of his deep frame directly toward the spectator. The spear which he carried is now broken away.

All three of these Roman soldiers wear tunics (*tunica*), cloaks (*sagum*), and have on their feet sandals (*calcei*). The figure on the right wears a military belt (*cingulum militare*), from which is suspended a richly ornamented scabbard. But the most interesting feature about the military equipment of these soldiers is the large shield (*scutum*), carried by the soldier in low relief. Not only is its embossed decoration, which includes floral motives and a scorpion in the center, a charming bit of Roman decorative art, but the method by which the shield is carried is entirely unusual. The first finger of the left hand is passed through a leather loop attached to the central part of the shield. Gabrici, who discusses this interesting feature and cites by way of explanation a passage from Polybius in regard to methods of carrying shields, is not sure whether or no the entire weight of the shield was born by this strap.

The date to which this monument should be assigned probably falls within the second century A. D. Visitors to the Museum will notice several points of technique which it has in common with the reliefs from the arch of Trajan at Beneventum, the casts of which are now temporarily placed at the head of the main stairway. In both monuments variations in the height of relief are employed to represent perspective, and in both, lances cross the field and intercept the view of the figures nearer the background. Both such devices doubtless remained long in vogue, so that there is no valid reason for holding that this relief should be assigned to the period immediately following the reign of Trajan.

E. H. H.

ATTIC VASES FROM ORVIETO

In 1897, through the generosity of Mr. John Wanamaker, the Museum secured two boxes of fragments of antique vases which had been excavated from tombs at Orvieto. The two black-figured amphoraë portraying the birth of Athena, which were described in a recent number of the MUSEUM JOURNAL, and a number of other



FIG. 127.—Black-figured hydria. Athena mounting a chariot.

vases were put together from this collection of fragments, but the rest of the pieces had, until April, 1913, been subjected to no thorough-going examination. It was then decided to undertake to sort the various types of vases represented by these fragments and to ascertain the possibility of restoring any of them.

The first task was to separate coarse fabrics native to Italian soil from the finer products of Attic ceramic art. This done, there

remained hundreds of fragments, mostly of black-figured vases of the sixth century B. C. Of these, the pieces of large, heavy amphore and hydriae were readily distinguishable from parts of cups, bowls, and lids of lighter clay. After this preliminary sorting according to kind and size began the work of piecing together the pictured scenes represented on these vases, a task which required



FIG. 128.—Black-figured amphora. *Quadriga in motion.*

weeks of work inasmuch as most of the fragments measured no more than an inch in greatest dimension. The results, however, justified the undertaking. Although not a single vase could be restored with no parts lacking, as many as twenty could be set up with such a measure of completeness as to give a satisfactory idea of the original. On all of these scenes are portrayed, that prove to be sufficiently complete to admit, at least in most cases, of full

identification. A description of the more important of these vases follows.

1. Hydria of the black-figured style, height $15\frac{3}{4}$ in. (Fig. 127). Two painted scenes usually adorn these water-jars, one large one on the side opposite the pour-handle, and a smaller one on the shoulder. The larger scene in the case of this vase represents Athena mounting her chariot. She wears a high helmet and her



FIG. 129a.—Black-figured amphora. Theseus and the Minotaur.

ægis, the snaky border of which is visible behind her shoulder. Mounting beside her is an attendant armed with sword and spear. Her escort consists of Apollo carrying a lyre and of Dionysos, whose presence is declared by the leafy fronds of ivy which serve as well to frame the upper part of the scene. The smaller painting on the shoulder is a stereotyped rendering of a familiar theme, that of two warriors playing at draughts in the presence of Athena.

The artist not understanding the significance of the group he was copying, made the mistake of drawing Athena in front of the gaming-board instead of behind it. The scene is bordered on either side by the armor which the heroes have discarded while indulging in the game.

2. Black-figured amphora, height 16 in. (Fig. 128). The scene on the obverse represents a four-horse chariot in motion. It is a



FIG. 129b.—Black-figured amphora. Departure of warrior.

lively scene and well drawn. The driver bends forward to his task, a dog runs before and an Amazon who escorts the group looks backward over her shoulder toward the prancing horses. But the most interesting thing about the scene is that the artist has here attempted to render a three-quarters view of a chariot. Ordinarily vase-painters of the black-figured period represented a chariot strictly in profile as on the hydria just described; identity or confusion of

contour they avoided by the simple device of placing one horse slightly ahead of another. Or, more rarely, Greek artists drew a full-faced view of a quadriga. The three-quarters view, though frequent enough in later stages of vase-painting, is rare at this early period. The originality of the artist is further shown by the scene on the obverse, which once consisted apparently of two standing musicians and two seated listeners. Most of this painting is gone, but luckily the figure of the fluter remains, a figure replete with



FIG. 130a.

realistic touches. No conventional musician is here depicted but a highly individualized character, a middle-aged man whose round shoulders and stout figure are but ill concealed beneath the loose white robe he wears. The forward tilt of his body, the upward thrust of his chin, and the position of his fat arms indicate his absorption in his task.

3. Black-figured amphora, height 20 $\frac{3}{4}$ in. (Fig. 129). The shape of this amphora is similar to that of the foregoing except for the

handles, which are broad and grooved. For this style of amphora the drawing seems unusually archaic. Thus the drapery falls in a few heavy folds nearly parallel one to another; the hair of the woman extends over only the crown of the head, resembling in appearance a flat cap; and the use of purple paint in rendering folds of drapery is abundant. The scene on the reverse is a familiar one, the combat of Theseus with the Minotaur. In the center are the combatants, on the left stands Ariadne; the identity of the



FIG. 130.—Black-figured amphora. Musicians performing.

other figures is uncertain. The subject of the obverse of this vase is the departure of a warrior in his chariot.

4. Black-figured amphora, height $11\frac{3}{4}$ in. (Fig. 130). Musical scenes are the subject of both the obverse and reverse of this vase. On the one is a single lyrist; on the other a lyrist playing before two seated figures. In the former scene all the details of an ancient lyre are faithfully rendered.

5. Black-figured amphora, height $16\frac{1}{2}$ in. (Fig. 131). This and

the next amphora to be described differ from the foregoing in several respects. The shape differs; the shoulder is higher and is sharply differentiated from the neck which is covered with an elaborate lotos and honeysuckle pattern. But the chief difference is that the space between the two decorated panels is not painted black as in the case of the other vases we have noted but is ornamented with an elaborate palmette design. On the obverse of this speci-



FIG. 131.—Black-figured amphora. Dionysos, Maenad and goat.

men is depicted Dionysos and a Maenad. He holds a kantharos, she castanets. Between them is a goat. On the reverse is Athena and a maiden.

6. Black-figured amphora, height 11 $\frac{3}{4}$ in. (Fig. 132). The smaller of the two "red-bodied" amphoræ is decorated with a scene the more interesting because it departs from the usual types of paintings found on Greek vases. The figures are not all to be easily

recognized. Two, however, present no difficulties. They are Athena, the second from the left, indicated by her helmet and spear, and Hermes, the second from the right. He, although he carries a spear instead of a caduceus, is identified by his big hat (*petasos*) and winged boots. The two women who follow these deities are distinguished by no attributes. For that reason it is probable that they are nymphs, in which case she who follows Hermes may be Herse whom



FIG. 132.—Black-figured amphora. Procession of Deities.

Hermes loved and carried off, and the other may be Aglauros who, according to Ovid, was turned to stone by Athena for conniving with Hermes in the rape of her sister. This, however, is the late version of the tale; according to earlier writers, Aglauros was the benefactress of Athens and was closely associated with Athena. The figure on the extreme right may perhaps be identified as Kekrops, the father of the sisters, for Greek vase-paintings some-

times represent him as a witness of Hermes' violence. But such identifications are hazardous, especially in this scene where the action itself is suppressed and the actors are merely juxtaposed. On the reverse are four meaningless figures whose only function is to fill space.

7. Black-figured amphora in affected style. If more of this vase could have been recovered, it would have been one of the most interesting in the group. Both the neck and shoulder of the vase are decorated with continuous friezes painted in what is known as the affected style in which the human figure is greatly attenuated. Hands and feet are long and slim, and heads are abnormally small in proportion to the height of the figures. In spite of these affectations, the style is marked by delicacy and fineness of execution. The decorative patterns on this class of vases and the subsidiary



FIG. 133.—Early black-figured kylix.

designs, like the small Pegasos under the handle of this vase, are among the best examples of Attic decorative art.

8. Early black-figured kylix, diameter 11 $\frac{1}{4}$ in. (Fig. 133). This beautifully shaped deep bowl is an Attic adaptation of an Ionic type which is thought to have originated in one of the Cyclades. Characteristic are the pairs of eyes, which in primitive art were introduced to avert the evil eye, but in later phases were retained solely for decorative effect. They are separated in our specimen by a highly conventionalized nose, but the conventional ears which frequently frame this design are here supplanted by clusters of grapes, some white, some dark. This bowl belongs to a beautifully executed class of vases so that the possession of even an imperfect specimen is a subject for congratulation.

9. Black-figured lekythos, height 8 $\frac{1}{2}$ in. The subject of the decoration is a usual one, that of a youth mounting a chariot.

10. Red-figured kylix, diameter $8\frac{1}{4}$ in. (Fig. 134). This kylix is of later date. It differs from the vases heretofore described in that it is red-figured, that is to say, the space between the figures and not the figures themselves is painted black. Details of drawing are rendered in black lines. The painted scene, which is typical of the period, is a scene from everyday life. It represents a youth writing with a stylus upon a folding tablet. Or is he drawing? The position of the hand suits quite as well the latter act, but there is evidence which goes to show that he is writing. On a well-known



FIG. 134.—Red-figured kylix. Boy writing.

kylix in Berlin is painted a school scene in which among other representations of masters and pupils is that of a young boy standing before a seated master who holds a tablet and stylus in nearly the same position as that depicted here. The boy appears either to be reciting an exercise written on the tablet or to be awaiting the master's corrections. The position of the two directly opposite to one another precludes the supposition that a drawing lesson is here represented. We are thus warranted in assuming, I believe, that the Museum possesses in this kylix a picture of the Greek

method of writing. It is interesting to note by what means the artist has succeeded in adapting this subject to a circular field. He tilts his figure slightly forward and thus contrives both to make the tasselled chlamys protrude into and relieve the empty space on the left, and to bring the cover of the tablet into the middle of the space on the right. The stool on which he sits and the rec-



FIG. 135.—Red-figured stamnos. Athletes and trainer.

tangular object, a large part of which is missing, serve further to give a quasi circular contour to the design. Two meaningless inscriptions also are introduced to fill the empty spaces of the picture.

11. Red-figured stamnos, height $14\frac{1}{2}$ in. (Fig. 135). The interest of this vase is twofold. First, the subject, that of athletes practicing in the presence of their trainers, is interesting in view of the

recent revival of Greek athletic sports. The scene takes place in the palaestra or training school, which is indicated by two columns. Next to one of these columns, at the left of the illustration, is a youth holding in one hand a halter or jumping weight and extending his other arm downward. Mr. E. Norman Gardiner, who has made special studies of Greek sports, is of the opinion that the halters were used as dumbbells for separate exercises in a period as early as that of the Persian wars. He suggests that an exercise similar to the one depicted here was invented by the javelin thrower for developing the special muscles and practicing the special positions required for the throw. The next figure is that of a diskos thrower and admirably depicts the first position or stance of this exercise.



FIG. 136.—Fragments of black-figured amphora showing thrower in Scythian costume and a horse grazing.

The athlete stands with his right foot advanced (this position of the feet is commonly reversed in paintings) and holds the diskos with arms outstretched straight before him, his right hand having a slightly higher hold than the left. The trainer with his staff stands directly in front of the athlete and behind him is a figure which plays as prominent a part in scenes of the palaestra as do the trainers. It is that of a musician, a flutist, to whose music the exercises were performed. On the reverse of the vase only the figure of the trainer is at all well preserved. The other point of interest about this vase is the fineness of the drawing. Admirable, for example, is the precision and purity of the line drawing in the torso of the diskos-thrower, the details of which are rendered, some by

fine black lines, others by lines of a dull red which is differentiated less sharply from the background of the clay. In strange contrast to the skilful draughtsmanship of this figure is the rendering of the head of the master of the palaistra, which is drawn full face, and which can scarcely be said to excel the crude attempts of a child. Apparently Attic artists were departing from familiar fields when they undertook to draw anything but a profile view. Their earliest attempts in this direction are traced to the period immediately following the Persian wars; in this period faces with grimaces as unlovely as that of our vase begin to make their appearance on



FIG. 137.—Portion of black-figured amphora showing Herakles and Erymanthian boar.

what would otherwise be masterpieces of drawing. The general opinion of scholars is that the vase-painters were then influenced by mural designs, notably by the work of Polygnotos, and that the early attempts to render full face views were stimulated by the achievements of the greater art of wall-painting.

In addition to the vases which could be restored, there were portions of vases which, although too fragmentary to warrant the construction of the whole piece, are yet themselves of great interest. Such is that of Fig. 136 showing an archer in Scythian costume. This figure is complete save for a bit of the quiver and the peak of

the cap, and affords an admirable picture of a smart bowman in the Greek army. Of the horse which he is holding, only a portion of the head remains, but a horse from the other side of the vase evidently duplicated this one. The costume of the archer is worthy of notice.



FIG. 138.—Fragment of a black-figured amphora with satyr eating grapes.

Conspicuous are the long trousers or *anuxerides* which every reader of Xenophon will remember as a characteristic part of Persian dress. Conspicuous too is the peaked cap, the point of which hangs down behind and the ornaments of which, probably of fur, fall in front of the ears. The entire costume, the cap, the sleeved shirt, and the long trousers, are covered with geometric figures to imitate the effect of embroidery. It has been generally held that the archers thus clad were themselves Scythians employed in the Greek army,



FIG. 139.—Fragment of a black-figured amphora depicting a carousal of satyrs, one of whom is trying to take the other two home on a donkey.

but investigations have shown that the Greeks did not organize a corps of Scythian archers until 476 B. C., whereas the black-figured vases which portray archers in Scythian attire date from the sixth century. The explanation recently suggested by a French scholar is that Greek bowmen adopted in an early period the cos-

tume of Scythians. It was especially affected by the troops who constituted a service auxiliary to the hoplites. It was their place to attack the enemy with arrows before the battle was joined, to aid the hoplites in the thick of the fight, especially by caring for their horses, and in case of victory to help in the pursuit. They were themselves often mounted, so that it is quite appropriate that the archer on this vase should be occupied in holding a grazing horse.

Other fragments worthy of note are those of Fig. 137 in which Herakles is depicted in the act of bringing the Erymanthian boar to Eurystheus, who takes refuge in a wine jar to escape the menaces of the advancing hero. The onlookers of the scene are Hermes at the left, and Athena at the right. The subject is a favorite one with vase-painters.

Lastly may be mentioned the fragments of a small black-figured amphora, Figs. 138 and 139, depicting a carousal of satyrs or seileni, the rollicking followers of Dionysos. It is the end of the bout which is represented in Fig. 139. One satyr is helping two drunken comrades home. He has got them safely on a mule, one riding backwards and holding on to the tail, the other, of whom a large portion is lost, holding, it would appear, the bridle and a wine-cup. The anxious friend is jerking up the head of the mule preparatory to starting on the perilous journey. Another portion of the same vase (Fig. 138) shows a charming grape-vine laden with clusters of grapes, from one of which a satyr is eating. His comrade is holding to his mouth an object not easily to be identified. It looks like the head of a pet bird which he is feeding, but conjectures are hazardous in view of the fragmentary condition of the vase.

E. H. H.

A RED-FIGURED KYLIX

Among the objects which have been cleaned during the summer of 1913 and from which modern restorations have been removed is the red-figured kylix shown in Fig. 140, decorated with a picture of a boy about to sacrifice a pig. Attention has already been called to this example of Greek vase-painting. The removal of restorations has, however, altered the appearance of the drawing on the



FIG. 140.—Red-figured kylix in the Museum.

inner surface. For this reason a photograph of the kylix in its present condition is reproduced in the JOURNAL. It will be seen from this photograph that the remaining lines of the ceremonial object held in the boy's left hand now suggest those of the usual three-pointed device of unknown purpose so frequently found on Greek vases portraying scenes of sacrifice. Examples of this object from other vases are shown in Fig. 141 for purposes of comparison. A special study of these objects of ritual is shortly to be published by the writer.

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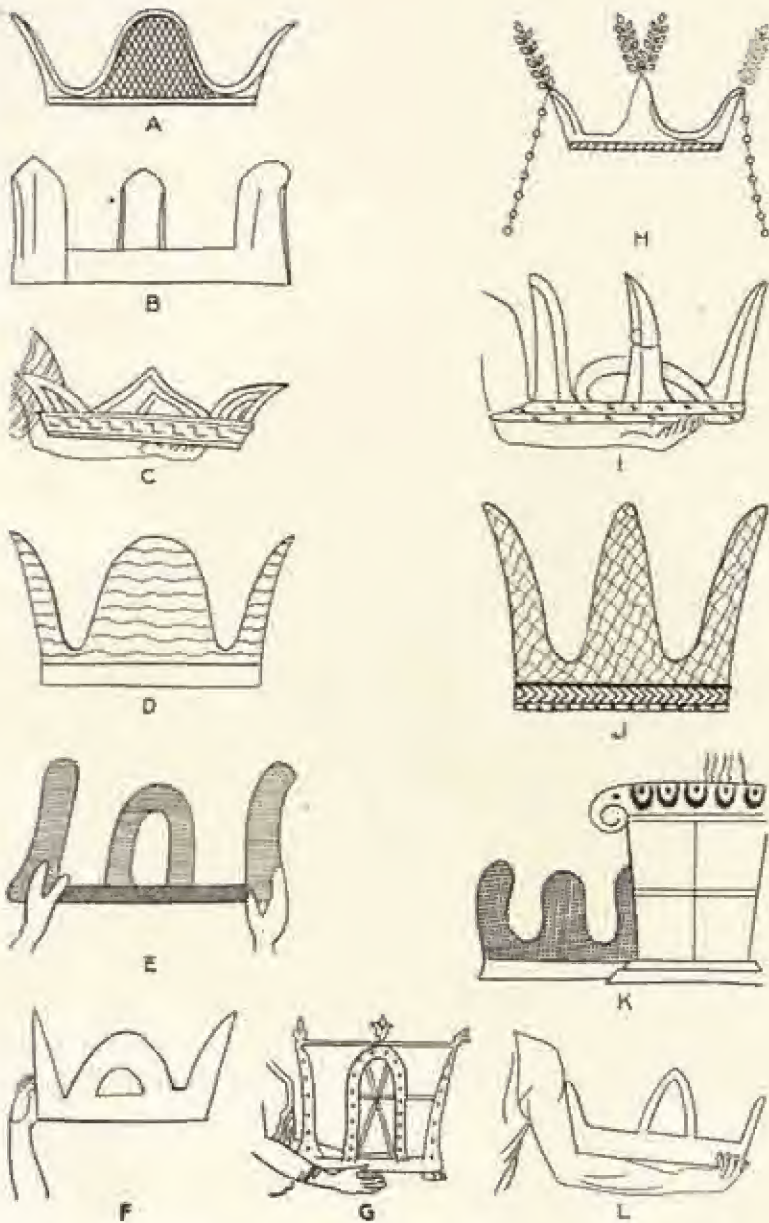


FIG. 141.—Ceremonial objects of unknown purpose like that shown in Fig. 140. A, From a red-figured kylix in the British Museum. B, From a black-figured lekythos in the British Museum. C, From a red-figured lekythos in the British Museum. D, From a red-figured pelike in Athens. E, From a black-figured lekythos in Athens. F, From a red-figured hydria in Munich. G, From a red-figured amphora in Palermo. H, From a black-figured amphora in Berlin. I, From a red-figured lekythos in Oxford. J, From a red-figured amphora in the British Museum. K, From a red-figured kylix in Berlin. L, From a red-figured stamnos in Oxford.

A SEATED DIONYSOS

The last addition to the Lucy Wharton Drexel collection of Roman sculpture acquired only a short time before the death of the donor is a life-sized marble statue representing a nude figure of a man seated on a rock over which a panther's skin is spread, and resting his right arm on the head of a lion, Fig. 142. It was procured from a dealer in Rome into whose hands it had passed after being sold at public auction by the Nazarene College, which, according to report, had acquired possession of it in 1622 at the time they inherited the *Palazzo dei duchi Caetani*. At some period of its history the statue had been built into a fountain; to serve this purpose passages had been bored from the nape of the lion's neck through the mouth and from front to back straight through the human torso. To this vandalism is doubtless due the fact that both jaws of the lion have been broken, the upper so badly as to entail the restoration of the nostrils and left cheek, and also the fact that the shoulders and back of the torso are somewhat eroded by water.

The other restorations which the statue has undergone include the head, the thumb and forefinger of the left hand, the big toe of the right foot, and two portions of the right leg where ancient pieces had been rejoined. The method by which this mending was done as well as the style of the restored head indicate that the restorations may date from so early a period as that of the renaissance.

With the exception of these restored parts, the entire statue, including both the lion and the rock, is made from a single block of fine white marble which shows in places the yellow tinges of oxidation. The workmanship of the statue is uneven; the modeling of the torso is good, that of the arms and feet and especially that of the lion's legs is poor. A possible explanation is that a less skillful artist was given the incomplete work of his superior to finish, or it may be that a mutilated original was at hand for the sculptor to copy so that while working on the torso he had a model to guide him, whereas when fashioning the arms and feet he was obliged to rely upon his own unaided powers.

Seated figures of the gods are common in Greek sculpture from the early archaic period. Among the pre-Persian marbles from the Akropolis, on the frieze of the Knidian Treasury at Delphi, are found seated figures of deities. But it was in a somewhat later

period of Greek art that there was evolved this particular type of statue, that of a god seated on a rock, one foot extended, one drawn beneath him and the whole attitude expressive of weariness. Three gods in particular are so depicted, *Hermes*, *Herakles* and *Dionysos*,



FIG. 142.—Seated *Dionysos*.

and the question arises as to which of these deities is here represented.

The type of seated *Hermes* is perhaps the most familiar; in the Museum is a copy of the Herculaneum bronze representing *Hermes* seated on a rock, his right foot extended, his left drawn beneath him in an attitude quite similar to that seen in Fig 136.

Still more closely analogous to this statue is one in the British Museum; the god in this case rests his left arm on a rock beside which is a cock. But a cock belongs to Hermes, whereas neither a lion nor a panther's pelt are numbered among his attributes.

The lion suggests Herakles and in general the statue presents analogies to the colossal statue in the Palace Oldtemps in Rome, recently reproduced in the Brunn-Bruckmann plates, but here the hero sits, as would be expected, upon a lion's skin, not upon that of a panther. He carries, moreover, a club which makes his identification sure. Whether other attributes than the lion's skin are essential is doubtful; a statuette of Herakles, now lost, that known as the *Hercules of Feurs*, apparently represented the god with no other attributes than the lion's skin on which he was sitting. But that Herakles should be seated on any other kind of a skin than that of a lion seems incredible.

And what of Dionysos? The panther's skin suits him entirely, but the lion at the side of the seated figure does not suggest the god of wine. The presence of the lion seems all the more strange in view of the fact that there is in Florence a statue very closely analogous to this one. It represents a seated figure in precisely the same attitude, the right foot extended, the left drawn beneath him, the left hand resting on the thigh and the right shoulder raised by the position of the arm, which in this case, however, is held not above a lion but above a panther. How can the presence of a lion instead of a panther be explained? We learn that in the course of the development of the Dionysiac cult, new symbols were joined to Dionysos which had originally belonged to the oriental gods assimilated by him. Among these was the lion, which, it is now thought, was borrowed not from the Phrygian Cybele but from the Lydian Bassareus. The shifts in religious beliefs and the influence of one cult upon another are generally faithfully reflected in vase-paintings, so that it is to vases one must turn for proof of the association of the lion with Dionysos. Such proof is not wanting; on a black-figured kylix dating from the sixth century is a picture of Dionysos holding a kantharos above the head of a lion who sits apparently in eager expectation of a share of its contents.*

On another well-known kylix in Würzburg, Dionysos appears in a chariot drawn by a panther, a lion and two deer. This association of the lion with Dionysos in vase-paintings and the close

* Gerhard, *Auserlesene Vasenbilder* I, Pl. XXXVIII.

correspondence of the statue illustrated in these pages with the Florence statue which certainly represents Dionysos, warrants, I believe, the theory that the former reproduces an old type of Dionysos statue in which the lion has been substituted for the panther.

It remains to determine the date of this statue, a problem which involves both the fixing of the date of the Greek original and that of the Roman copy, for there is nothing about either the workmanship or style of the marble in the Museum to indicate that it is itself a Greek original. The probability is that it is one of those numerous statues made to adorn the villas or gardens of wealthy Romans of the early empire. Such Roman copies, frequently repeated and freely modified, though they may not be taken to reproduce accurately the Greek types from which they are descended, are yet of great importance to the student of sculpture for determining what those types were. The originals are lost, but the copies remain and reflect, if but dimly, the conceptions of the Greek masters.

The original type of seated Dionysos from which the statue in the Museum is derived goes back to the fourth if not to the fifth century B. C. The beautiful monument of Lysikrates in Athens erected in 335 B. C. to commemorate a choregic victory is adorned with a frieze which depicts in low relief the punishment administered to the Tyrrhenian pirates by Dionysos. Here the god appears seated on a rock in an attitude not unlike that of the statue to which we call attention and there is a chance that this type of seated Dionysos may have an even earlier origin. We have already noted the resemblance of the statue to that of Herakles in the Palace Oldtemps in Rome. The original of this statue has been traced to Myron and it is entirely possible that the seated Dionysos type was derived from that of the seated Herakles or that it was itself invented in as early a period as that of Myron.

E. H. H.

NOTES.

The President and Board of Managers of the Museum sent out invitations for a reception and tea on the afternoon of December 12th on the occasion of the opening of the special exhibition which had been arranged in one of the halls of the second floor during the summer, in order to show some of the newly acquired objects. The different groups comprised in this exhibition were the Roman glass, Roman sculpture, Chinese porcelains, Oriental rugs and a group of objects from a Tibetan monastery. The exhibition, as now arranged, will remain open through the month of January.

The red granite sphinx assigned to the Museum by the Committee of the British School of Archaeology in Egypt has been placed in front of the main entrance to the building facing the entrance to the courtyard. While this position cannot be regarded as permanent it affords every one who comes to the Museum a good view of the most important single piece which has been acquired by the Museum during 1913 and one of the largest pieces of Egyptian sculpture in America.

In addition to the granite sphinx the Museum has received from the British School of Archaeology in Egypt a mutilated bust of the god Hapi and a carved wooden support of a couch from Memphis and a house timber from Tarkhan.

The Museum has received as a gift from the Egypt Exploration Fund a collection of 283 specimens, including flint scrapers, knives and chips from a predynastic cemetery at Abydos.

A marble relief in the Neo-Attic style formerly in the collection of the Duke of Genoa has just been purchased by the Museum and is included in the exhibition opened in December.

The Museum has received through purchase a collection of nineteen reproductions of antiquities found in tombs at Mycenæ and now in the Museum at Athens. These objects comprise bronze swords and inlaid daggers, together with gold, silver and bronze cups and vases.

An Imperial jade sceptre of rare character recently acquired may be seen among the Chinese art objects in the new exhibition hall. The sceptre is in the usual form and consists of a wand of silver gilt filigree with enamelled embellishments mounting three jade plaques artistically carved.

A collection of forty pieces of Chinese porcelains and celadons purchased in November form an attractive feature of the new exhibits.

A small collection of rare objects from a Tibetan monastery has recently been acquired by purchase. These include a Tibetan creed book with carved teakwood covers, a bronze statue plated with gold of St. Padma Sambhava and five bronze images of Buddha. These form a part of the new exhibits.

An exchange has been arranged with M. Henri Martin by which the Museum receives palæolithic implements from La Quina in the Dordogne district.

A collection of 1,369 palæolithic flint implements brought together by the late Dr. Robert Elliott of London, England, has been purchased and these will form the beginning of a series of objects to represent the prehistoric archaeology of western Europe.

Professor Franz Boas of Columbia University spent several days in the Museum working upon a classification of the prehistoric potteries discovered by the International School of American Archaeology and Ethnology in Mexico during the year when Dr. Boas had charge of the work of the school. These potteries represent three distinct superimposed cultures and also a number of local fabrics distinguished by texture and by decoration.

Mr. Edward Morrell has presented to the Museum twelve ancient Indian implements dug up on Calf Island in Frenchman's Bay on the Maine coast. These specimens are part of the results of systematic explorations carried on by Prof. Warren K. Moorehead during the summer of 1913.

Five painted buffalo robes and two buckskin pouches with porcupine quill embroidery have been added to the Thomas H. Powers Collection.

The following ethnological collections have recently been purchased: 2,029 specimens from a number of African tribes, including their weapons, utensils, ornaments and clothing. A collection of 110 specimens from Dutch and German New Guinea and New Ireland, including many characteristic types of wood carving. An Eskimo collection from Southampton Island comprising clothing, weapons, stone lamps and numerous small articles of use and ornament.

Mr. W. H. Mechling has presented to the Museum an Indian drum collected at Santa Clara, California.

Mrs. Randolph Clay of London, England, has presented to the Museum a collection of Peruvian antiquities consisting of Inca pottery, gold and silver images and bronze implements. This collection was brought from Peru in the early part of the nineteenth century.

Mr. Alexander Scott has presented to the Museum two antique bronze objects from Tibet, one is the *vajra* emblem or thunderbolt and the other the so-called devil dodger or iron spike with a bronze handle surmounted by a series of grotesque masks.

In September the South American expedition had reached the unexplored regions of the upper Uraracuera River in northern Brazil, close to the Venezuelan boundary. Here the expedition encountered waterfalls which ended the journey in that direction. On the upper Uraracuera the expedition was in contact with remnants of three tribes: the Porocotos, Ajamaras and Zapacas, remaining with them long enough to secure vocabularies and other information, as well as to make collections and photographs. On the Majari River, a branch of the Uraracuera, some archaeological data were obtained. On October 7th the expedition had returned to Boa Visto on the Upper Rio Branco.

Dr. Edith H. Hall, Assistant Curator of the Græco-Roman Section, has prepared for publication a volume dealing with the

excavations on the site of Vrokastro in eastern Crete. This publication, now in press, will appear as part 3 of Vol. III of the Anthropological Series.

The volume by Dr. Arno Poebel, entitled "Sumerian Historical and Grammatic Texts," to form Vol. IV of the Babylonian Series, is now in press and will be issued in the course of the winter.

Prof. Arthur Ungnad of the University of Jena arrived in the Museum on October 1st and has since been engaged in copying tablets in the Babylonian Section and in preparing a volume of letters from ancient texts selected from the Museum's collections.

Mr. W. H. Mechling has been appointed Fellow to the International School of American Archaeology and Ethnology in Mexico for the year 1913-14.

Mr. Henry H. Bonnell has been elected on the Board of Managers of the Museum for the term ending January 1, 1918.

The Drexel medal was awarded this year to Dr. Arthur S. Hunt in recognition of his archaeological work in Egypt and his publications thereon.

The annual meeting of the contributing members took place on Friday, December 19th. At this meeting the annual reports of the president and directors were presented, dealing with the progress of the year 1913.

During the year, up to December 15th, 1815 children from the elementary and high schools of Philadelphia visited the Museum with their teachers and received special instruction. In addition to the Philadelphia schools, classes came from Trenton and other nearby cities.

The number of visitors for the year 1913, up to December 14th, is 71,801. The Museum remained open to visitors every day during the year.

Since the last number of the JOURNAL went to press the following members were elected to the Museum: Fellowship Members: R. Francis Wood, C. Frederick Brice; Sustaining Members: A. H. Sayce, E. B. Robinette; Annual Members: Arthur N. Leeds, Coleman Sellers, Jr.

During the year 1913, up to December 16th, 1,270 readers made use of the Museum Library. During the same period 458 volumes were purchased and 686 volumes received through exchange, making a total of 1,144 volumes by which the Library has been increased during the year. These are all works of standard value relating to the special interests of the Museum.

The Museum course of lectures began on November 1st. The following is the program of this course as at present arranged.

- November 1.—Prof. Charles Upson Clark, of Yale University: "Roman Ruins in Northern Italy and Southern France."
- November 8.—Prof. Franz Boas, of Columbia University: "American Race Problems: the Indian."
- November 15.—Frederick I. Monsen, F.R.G.S.: "Mexico and Her People."
- November 22.—Prof. Franz Boas, of Columbia University: "American Race Problems: the African."
- November 29.—Fay Cooper Cole, of the Field Museum of Natural History: "The Pygmies. The Social and Home Life of the most Primitive of Living Races."
- December 6.—Prof. Franz Boas, of Columbia University: "American Race Problems: the Immigrant."
- December 13.—Prof. Clifford H. Moore, of Harvard University: "Asclepius, the God of Healing, and His Shrine at Epidaurus."
- January 3.—Frederick I. Monsen, F.R.G.S.: "The Indians of the Painted Desert."
- January 10.—Fay Cooper Cole, of the Field Museum of Natural History: "Mindanao—The Land of Human Sacrifice."
- January 17.—Prof. Howard Crosby Butler, of Princeton University: "The American Excavations at Sardis in Asia Minor."
- January 24.—Charles Wellington Furlong, F.R.G.S.: "The Wild River Lands of the Guianas and Their Peoples."

- January 31.—Prof. Hiram Bingham, of Yale University: "The Land of the Incas."
- February 7.—Prof. John C. Rolfe, of the University of Pennsylvania: "Ostia, the Ancient Seaport of Rome, and the Recent Excavations."
- February 14.—Prof. Walton Brooks McDaniel, of the University of Pennsylvania: "Pliny and Lake Como."
- February 21.—Lecture to be announced later.
- February 28.—Lecture to be announced later.
- March 7.—Prof. Walton Brooks McDaniel, of the University of Pennsylvania: "Catullus and Lake Garda."
- March 14.—Lecture to be announced later.
- March 21.—Prof. James H. Breasted, of the University of Chicago: "Through the Cataracts of the Nile, or Camp and Caravan in Ancient Ethiopia."
- March 28.—Prof. James H. Breasted, of the University of Chicago: "Egyptian Art."

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